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ABSTRACT

This environment education curriculum guide focuses on the integration of environmental education into all phases of the home economics curriculum: textiles, clothing, foods, nutrition, health, grooming, human development, home management, consumer education, housing, lifestyles, and occupations related to home economics. The guide is divided into six parts. Part I, Background and Philosophy, introduces the idea and need for environmental home economics. Part II, Curriculum Ideas, presents ideas to help the teacher integrate environmental education into the curriculum to facilitate the needs of the students and the situation. Organizational Helps, Part III, presents ideas for involving students, community, and organizations in environmental home economics planning and projects. Part IV presents sample environmental home economics units. Each unit contains objectives, an outline based on Alaska Guidelines for Home Economics, behavioral objectives and corresponding learning experiences. Guidelines to Citizen Action, Part V, contains a list of positive environmental actions that students can apply to daily life. Part VI, the Appendix, includes teaching techniques such as simulation games, concept charts, demonstrations, and resource materials. (TK)

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ALASKA GUIDELINES
for
ENVIRONMENTAL HOME ECONOMICS

(Working for Quality of Life)

by Charlotte B. Gibbs
Program Leader

Environmental Home Economics Education Pilot Program
Kenai Peninsula Borough School District
in cooperation with
Division of Vocational and Adult Education
Alaska Department of Education

School Year 1973-74

PREFACE

The environmental home economics concept materialized on the Kenai Peninsula, Alaska, during the school-year 1971-72 through the Environmental Education Pilot Program funded under Title III. The workshops, classes, and assistance provided as part of that program was motivating for the later development of the Environmental Home Economics Education Pilot Program on the Kenai Peninsula during the school year 1973-74. Special appreciation is given to Dr. Roy C. White, then assistant professor of the University of Montana, and Peter E. Larson, then director of the Environmental Education Pilot Program, for the impetus they gave me to support environmental education through my field of home economics.

This program would not have been possible, however, without the enthusiasm and support of Mary R. Hawkins, Alaska Program Chief of Home Economics and Health, and Walt Ward, Assistant-Superintendent of the Kenai Peninsula Borough School District. Further thanks go to the many teachers, students, and community members who participated in the program, for they provided the success for the project.

– Charlotte B. Gibbs
Program Leader

ALASKA GUIDELINES for ENVIRONMENTAL HOME ECONOMICS

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PART I: BACKGROUND AND PHILOSOPHY

A. INTRODUCTION

Many Alaskans are concerned for the environment and home economists on the Kenai Peninsula were concerned enough during the school year 1973-74 to take organized action. The Environmental Home Economics Education Program involved several schools and teachers. Set-up as a pilot project for the State, the program's overall goals were to (1) incorporate environmental home economics education into Kenai Peninsula schools, (2) extend interest in environmental home economics throughout Alaska, and (3) share gained knowledge and materials nationally. Hopefully, the efforts of a few home economists on the Kenai Peninsula will encourage many home economists in the country to become concerned about the environment and thus enable the profession to make an impact on America's growing ecological problems.

How can home economists help? By studying the ecology of an area and evaluating the various phases of home economics for consistency with environmental concerns. When necessary for environmental protection, home economics courses can be revamped, materials updated or discarded, and practices modified or eliminated. For the most part, home economics practices are consistent with environmental protection, but occasionally home economists perpetuate practices environmentalists would question. Once a home economist knows what needs to be done, it is important to follow through with personal and professional example as well as to encourage homemakers to take action.

Consistent with the *Alaska Guidelines for Home Economics*, the environmental education program integrated ecological concerns into all areas of home economics: clothing, textiles, and grooming; foods, nutrition, and health; human development and family; consumer education and home management; environmental housing and life-styles; and occupations related to home economics. Environmental education is not taught in isolation, but rather integrated with existing home economics curriculum. A slight change in emphasis, an adapted practice, a supplemental project, or a modified unit allows for environmental consistency which then enhances the home economics concepts.

Drawing upon experiments and experiences from the year pilot project, this guide booklet has been developed to assist home economists who wish to incorporate environmental education into their programs. There are two sample units for each of the home economics categories, which will help initially, but hopefully individuals will also want to develop their own units.

Environmental home economics education is feasible, fun, and forward looking. By making it "fashionable," home economists have a great opportunity to contribute to environmental quality.

B. DIRECTION FOR HOME ECONOMICS

If home economics is to stay relevant, it will necessarily encompass America's growing concern for environment. Ecology was derived from the Greek word "oikos" meaning house. Certainly home is the beginning of environment for a family. Homemakers have a tremendous impact on environmental concerns such as consumerism, recycling, and American life-style. Home economists have a tremendous influence on homemakers who in turn influence the family. Conceivably, the

home economics field can reach most Americans. Real environmental action initiates from the individual and home economists have the opportunity to motivate the individual.

Environmental home economics education is an important direction for home economics. Home economists have a responsibility to evaluate the various areas of home economics for consistency with environmental concerns. When necessary for environmental protection, changes in curriculum should be made.

For example, home economists could de-emphasize fashion. Fashion may be fun, but it leads to waste! How many people discard perfectly wearable shoes and outfits because fashion dictates that they are outmoded? How many people buy clothes and accessories they don't need in order to appear fashionable? How many home economists support fashion through personal example or perpetuate its importance professionally? Fashion admittedly has its place, but its psychological aspects can be maintained while giving it a different emphasis: a recycling approach to clothing with fashion individuality stressed.

Home economists can help Americans evaluate some of their standards which add to pollution. Why is there a stigma to off-white? Homemakers appreciating the attractiveness of off-white yarn and unbleached muslin might not be as prone to overuse bleach, phosphates, and enzyme soaks to keep whites "whiter than white." While white is sought after in many products not naturally occurring so white, such as flour, sugar, and rice, which require bleaching and/or refining to achieve desired whiteness; Americans add dyes to other products that could be left white. What is so unfashionable about plain white toilet paper, napkins, tissues, and paper towels? Dyes released during manufacturing pollute. Paper products will disintegrate, but dye remains in the water system. Must fashion reign supreme?

Home economists have a tremendous responsibility in environmental protection as they set the trends and examples for homemakers. They cannot continue to encourage practices that new knowledge has proved detrimental to the environment.

C. WHAT IS ENVIRONMENTAL HOME ECONOMICS?

- It is developing the attitude, knowledge, and skills that individuals and families need in order to adapt American life-style so as to better protect the environment.
- It is initiating environmental action with the individual, who will influence the family, which will in turn influence the community, etc.
- It is evaluating values, standards, and goals for affect on the environment; it is considering whether benefits derived from actions offset the environmental damage done overall.
- It is learning to think about the affects of individual decision and thinking carefully before deciding.
- It is learning to simplify life and enjoy living more simply.
- It is learning to be efficient with time and energy so that families have more time and energy to do things for themselves.

- It is realizing that people do not need to buy and consume so much — to the limit of their buying power — in order to have quality of life.

- It is gaining a willingness to let quality replace quantity, to buy only what one really needs and to take good care of what one has.

- It is learning about ecology and evaluating the various areas of home economics for consistency with environmental concerns.

- It is revamping programs, adapting ideas being emphasized, up-dating or discarding materials, or modifying practices in order to be consistent with environmental protection.

- It is following through with personal and professional example, as well as encouraging others to take action.

- It is being concerned enough about the environment and quality of life to take organized action.

D. WHY ENVIRONMENTAL HOME ECONOMICS?

Why should the home economics profession tackle the ecology concern rather than letting scientists and government initate action?

- Primarily because home economists are concerned with human development and family well-being and environmental problems interfere with quality of life.

- The second reason is that real environmental action initiates with the individual and home economists have the opportunity to motivate individual homemakers. The impact of homemakers is apparent! Conceivably, the home economics field can reach all Americans.

- Third, scientists can tell people what they should do, government can pass laws attempting to force citizens to do it, but the individual makes the decision. Home economists can help that individual make his decision and consistently carry-through daily with personal action.

E. MORAL OBLIGATION FOR ENVIRONMENTAL PROTECTION

New Year's Day, 1974 — The energy crisis is on everyone's mind, or should be! Yet an Alaskan family noisily races its three snowmobiles up and down a side road for several hours. A couple of days later, an Alaskan schoolteacher opens her classroom window for the day because her room is about 90°F. She tried to get the thermostat adjusted, but since the school gets its energy from a natural gas well, those who could have helped with the repair were not much concerned and dismissed her complaint with "open a window!" The Saturday preceeding the national adoption of daylight savings time, another Alaskan family makes three separate five-mile trips to town: the father to pick up mail and pay a few bills, the mother to buy groceries and go to the drug store, and the two daughters to look at patterns at the fabric store. They were too unconcerned to plan ahead.

Not everyone in Alaska or the United States is equally effected or concerned by the energy crisis;

but should we have an equal responsibility for lessening the problem? What is our moral responsibility to others? Is it everyone for himself or "am I my brother's keeper?"

Can man continue to be self-centered? Even those who believe that individual survival falls back to the individual must realize that they depend upon collective survival of all living things. As a living creature, man is dependent on natural systems and the survival of earth. If earth is over populated and badly polluted, what chance will the individual have of surviving? Many people have the attitude, "If it happens, it happens — I'm going to enjoy life while I can; I could die crossing the street tomorrow anyway!" This fatalistic attitude is hard to counter, as such persons are living with little joy and hope anyway, but this makes one more cognizant that something must be drastically wrong with a quality of life that fosters such apathy. Those who still care must work harder than ever to fight environmental decay before it is too late.

Regardless of personal belief, each person will in some way be affected by our fast growing environmental problems. He has a responsibility to himself and others to take personal action. Real environmental decision-making comes back to the individual. Scientists can tell one how to help, government can pass laws trying to enforce action, but the individual still makes the final decision.

F. REACHING FOR QUALITY OF LIFE

Americans often confuse quality with quantity. Certainly quality of life and standard of living cannot be equated, but how many Americans realize it? The United States consumes 40-50% of the world's consumable resources. Are we really happier for it? Do the appearance and actions of the average American indicate more than superficial happiness? How many Americans have inner contentment and peace of mind? How many American families have real homes? How many people even look healthy physically or begin to radiate well-being?

When man gets so dependent on a supply of gas that he will steal it from friends and neighbors, bribe or even shoot a service-station attendant, or slam backward into a car (causing a long line of cars to bump) from the anger of not getting served before the gas station depletes its supply, one wonders what is to come as population expands and natural resources continue to diminish. Can we continue to ignore environmentalist's warnings about badly diminished resources, lethal pollution, and serious food shortage?

One positive effect of the recent energy crises is that many Americans are evaluating their life-styles, values, and goals, now beginning to realize that quality of life comes from building inner resources, not from consuming more and more natural resources. Many Americans are beginning to think more of their emotional and spiritual development, as well as a physical well-being that means more than physical comfort.

Unfortunately, preventative measures are not priority items. A crises situation requires action but environmental problems are not readily recognized in Alaska as they are considerably less visible with Alaska being relatively unspoiled. Some students and parents feel a concern for Alaska's environment a bit ridiculous.

Elsewhere in the United States, preventative action is necessary also. Individuals need to act before a crisis. Many citizens consider environmental action to be a yearly community effort to clean-up litter. While worthwhile, this hardly makes one an environmentalist. Pollution is a vital concern, but

is the symptom of many environmental problems, not a cause. Action and concern must go much deeper — getting at the cause of problems rather than superficially treating symptoms. Individuals need to evaluate their entire way of life and begin to act to preserve quality of life. Long-range preventative measures may seem dull, but they are vital.

While some people blame technology for our environmental problems and complain about progress, others look to technology to bring solutions before a bad crisis arises. Technology itself is not bad, but man tends to abuse it through waste of materials and refusal to clean-up after himself. Actually technology, given time, could provide solutions, but time is essential. Meanwhile, standard of living, resource consumption, and population expansion need to be considerably tapered.

Most Americans either ignore the overpopulation warning or assume that since America's population expansion has slowed that there is no longer a threat. People may consider it their right to have as many children as they wish, but what rights will those children inherit! Population aggravates every environmental problem. True, America's population expansion has slowed, but even at 1.0 growth rate the population could double in 70 years. Following are a few implications for Americans:

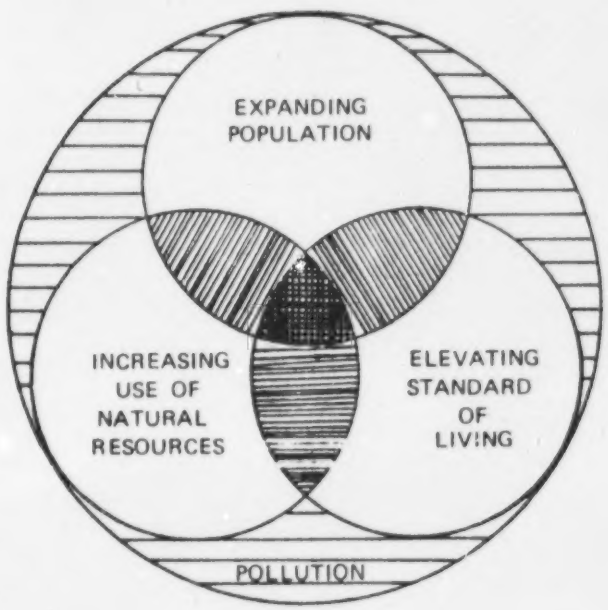
1. Lower per capita income
2. Increased unemployment and difficulty finding jobs
3. Tremendously overcrowded metropolitan areas and vast suburb expansion
4. Hastened depletion of natural resources, especially water
5. Greater energy demands (America presently has an electricity doubling time of ten years)
6. Lack of recreational facilities, especially those requiring natural surroundings
7. Tremendous pressure on food supplies and soaring prices
8. Increasing financial burden for schools
9. Accelerated pace of pollution
10. Marked change in life-style, decreased quality of life

Country	Population Estimate	Annual Rate of Population Growth	Number of Years to Double Population	Population Projections to 1985
United States	209 million	1.0	70	246 million
India	585 million	2.5	28	808 million
Peru	14.5 million	3.1	23	2.2 million
Mexico	54 million	3.3	21	84 million
China	786 million	1.7	41	965 million
Japan	106 million	1.2	58	121 million
Barbados	.3 million	.8	87	.3 million
Sweden	8.2 million	.4	174	8.8 million
World	3,782 million	2.0	35	4,933 million

The individual family may believe it makes no real difference if it produces two or three children, but one more does make a difference. Assuming there is an average of 2.1 children per woman born in the United States, that would mean 271 million more people by 2,000 A.D. An average of 3.1 children per woman would mean 322 million increased (51 million difference). The 1972 U.S. Commission on Population Growth and the American Family reported that quality of life would decline considerably if American families averaged three children born rather than two. Are families aware of the difference? Can home economists help to educate Americans?

Education cannot stop with the United States. The population problem gets really complicated by underdeveloped countries which double population every 20-30 years. Already with shortages of food and low standard of living, conditions in many countries will worsen as world population increases. Even if Americans can rationalize that the United States has solved its environmental problems, can Americans fool themselves that they will not be affected by problems in other countries. The United States consumes about 30% of foods of animal origin. Do Americans expect that as world population increases, our country will be able to perpetuate such iniquities. The U.S. citizen who complacently digests his well-marbled steak in front of the television may pull his belt in several notches in the years to come, probably to be healthier for it even so. Technology will have a great problem providing the increased amount of food needed to supply the fast-growing populations. The world's hungry are increasing. Shall we wait for famine to strike before we show concern?

As for standard of living, as it increases, the supply of natural resources decreases. Already consuming almost half of the world's consumable natural resources, Americans continue the endless grasp for the "newer, bigger, better-than ever" as they cast their pollution and waste out of their minds. Does a family really need to use more power and materials to the limit of its buying power in order to live life to its fullest? Every family must be encouraged to evaluate its life-style; reassess its values, standards, and goals; and work toward preserving the quality of life that it really desires!



Concept Help: Relationship of Environmental Problems

SUMMARY:

Pollution is a symptom of environmental problems. It is aggravated by expanding population, increasing use of natural resources, and elevating standard of living. However, pollution is not the only concern! For example, population aggravates every other environmental problem. If technology is to provide solutions to environmental problems, it requires time, meaning standard of living, resource consumption, and population expansion must be considerably tapered.

One positive effect of the energy crises is that many Americans are evaluating their life-styles, values, and goals. Quality of life and standard of living cannot be equated. Americans cannot continue to confuse quality with quantity. Real quality of life comes from building inner resources, not from consuming more and more natural resources. Americans need to think more of their emotional and spiritual development, as well as a physical well-being that means more than physical comfort. Quality of life is within reach, but it must be recognized!

PART II: CURRICULUM IDEAS

There are numerous ways to work environmental education into the existing home economics curriculum. Each teacher can best determine how to meet the needs of students and the situation. The following outline presents ideas to assist.

A. HUMAN DEVELOPMENT AND THE FAMILY

There is more need than ever to teach courses in human relations and personal development at both the junior and senior high levels. Students need help in building self-concept and self-control, in understanding others and their relationships with and responsibility to others, and in realizing their impact on society. Forward-looking home economics programs need to help students cope positively with the pressures of a changing environment.

1. Personal Relations and Environment

   How am I affected by my environment; how do I affect my surroundings? How can I preserve the environment in which I live? How can I discipline myself to resist actions that are ecologically unsound; how can I positively influence my peers to prevent them from ruining the environment? Who am I; what do I want from life; what kind of world do I want for my family and future children; what life-style do I want to live? What escape mechanisms do people use to avoid coping with a negative environment?

   Home economics teachers cannot give the answers, but they can and should provide the opportunity for students to think through the answers for themselves. Students need to interact with each other on common concerns. These concepts can be introduced effectively.

2. Family Life-Style and Recreation

   When family leisure consists of viewing television and racing snowmobiles, cars, motorcycles, and boats, students cannot be blamed for being ecologically selfish in spite of an energy crises. Home economics teachers can help students become aware of alternate family life-styles and recreation possibilities. Why not do a unit on "The Family at Leisure" and expose students to outdoor activities such as skating, cross-country skiing, hiking, and back packing?

   Why not introduce students to some environmentally-sound indoor games and hobbies? Recycling hobbies such as making soap, cutting bottles to make glasses and bowls, and refinishing furniture, crocheting afghans or knitting striped mittens from scraps of yarn, making quilts and other home decorations from scraps of cloth, macrameing belts from left-over yarn and collected twine, making candles from odd bits of used candles, wax, and crayons, etc., can be very stimulating in the classroom and provide excellent opportunities for involving community members as resource persons. Family participation can be encouraged as well. The teacher need not be a recycling expert; parents can be recruited to do demonstrations or teach mini courses for the unit.

3. Environmental Concerns for the Community

The home economics class can help build sound citizens through a unit on environmental concerns for the local community. Students can be encouraged to be actively concerned by participating in class projects that determine local environmental projects, problem-solving activities related to those concerns, and follow-through action locally to help lessen environmental problems. The energy crises; solid and liquid waste; air, water, and noise pollution; protection of wildlife, water courses, and natural areas are some of the general concerns for most communities, but care must be taken to relate these and other environmental concerns to the local community if students are to gain incentive to act.

4. Child Growth and Development

This area of home economics is a bit more difficult to develop into environmentally-related units. Although the topics of overpopulation, planned parenthood, and adoption work smoothly with the content of the unit, the school and community do not always smoothly accept the concepts of these controversial topics.

Where feasible, these topics should be considered in class. Overpopulation definitely contributes to pollution problems, burdens already exhausting natural resources, and requires technological advances to feed greater numbers of people adequately. Planned parenthood reduces the number of unwanted children and cuts down population growth rate. Zero-population growth proposes holding the number of children born to a couple to two, with the family adopting children after two.

Less controversial, "preserving the quality of life for our children" is a valid environmental topic, but it requires some teacher imagination. One technique is to have students write descriptions of the leisure society of the future." Ron M. Linton's description in *Terracide, America's Destruction of Her Living Environment*, p. 7 & 8 would be a motivating introduction to this unit. Discussion of descriptions could be motivated by the following questions:

1. How does the thought of the leisure society of the future affect you?
2. What can we expect of the future if we do not protect the environment?
3. How would life in a polluted world and over-crowded situation affect personal and family relationships?
4. What will it be like to raise children in such a world? How will children growing up in such conditions develop?
5. What things are presently endangering quality of life?
6. How can we preserve the quality of life we desire for our children?
7. Make a summarizing statement about what was discussed.

There are numerous ways to carry on the unit: skits, research and oral presentations, panels, simulation games,* class-action projects. The teacher can have the students help plan the unit after the initial motivating activity.

A unit on "Environmental Play Material" is included in this guide. This can easily supplement existing child development units and coincide with observation of children and nursery-school situations.

* See Appendix for directions for simulation games.

B. CLOTHING, TEXTILES, AND GROOMING

Fortunately, recent trends encourage individuality of dress and naturalness in grooming, but fashion still dictates to many people and many school girls still over-do with make-up and cosmetics. Students need to evaluate their dress and grooming from an environmental viewpoint.

1. Recycling Approach to Clothing and Sewing

   Since fashion influences people, especially teenagers, home economists can help eliminate fashion waste by teaching a recycling unit to clothing and textiles. A sample approach appears in the Unit Section of this guide.

2. Naturalness in Personal Environment

   Home economics teachers can show girls how to achieve an attractive naturalness in grooming while helping them realize that such things as hair sprays actually pollute the body. The natural look advertised by cosmetic companies can be achieved through diet and exercise that provide natural good looks plus a minimum of make-up and cosmetics when really needed. The role of make-up should be minimized. Students should learn to care for their hair naturally with a biodegradable shampoo and a rinse of vinegar for brunettes and a lemon rinse for blondes. Elaborate hair styles, "back combing, permanents, dyes, hair sprays, etc., should be discouraged. Girls should be encouraged to use natural products when a cosmetic aid is necessary: olive oil for dry skin, lemon for facials, after-bath oil of lemon and baby oil, etc.

C. FOODS, NUTRITION, AND HEALTH

Some obvious topics for this section are "Preparation of Wild Foods" or "Living Off the Land;" "Preservation of Foods," and "Organic Gardening." There are several others which should not be overlooked as possibilities.

1. Chemicals in Foods

   One need not be a food faddist to be concerned with the number of chemical additives in foods or the combination of chemicals which are making new foods. Body pollution is a reality and our food should be as natural as possible.

   The exposure of cyclamates as being harmful, in spite of its appearance on the Food and Drug Administration's GRAS list, has concerned nutritionists and homemakers. There is a real concern over DDT content in foods, especially when breast feeding becomes a questionable practice because mother's milk has such a high concentration of DDT. This does not mean the home economist must teach a health foods course, but she can include topics of public concern.

2. Feeding the World's People

   Even a recent Congressional Investigation made clear that not all the people in the U.S.A. (which is supposed to be the best-fed nation) receive adequate nutrition. Although children do not usually relate to mother's comment, "Don't waste your food because people are starving in India," students can relate to a study of "feeding the world's people as population increases."

3. Food Chains in Relation to Protein Consumption

With homemakers crying about meat prices, home economists can now introduce some heavy implications to the public. Americans consume an unproportionate percentage of food of animal origin. High protein by-products fit for human consumption are shipped from other countries and fed to America's animals. Could not Americans discipline themselves a bit by eating meat less marbled so that our livestock need not consume food that starving people could use?

Some vegetarians claim "The Real Energy Crises is the Cow" referring to the tremendous waste of energy as occurs in the several steps up the food chain when humans consume flesh foods. Americans need not become vegetarians but neither is it necessary to consume as much meat as our nation does. By partially eating lower on the food chain and consuming more meat substitutes; can Americans free animal protein for use in protein starved countries? (At least they can free some of the vegetable protein our live stock consume by eating less thickly-marbled steak.) Soybeans and other plant-protein sources can be inexpensive and deliciously prepared and used to replac a portion of the flesh foods normally consumed by the American family.

Since DDT gets more concentrated as it progresses up the food chain, and consumption of animal fats has a relation to coronary heart disease and hardening of the arteries; home economists have more than environmental reasons for encouraging Americans to eat more foods occurring lower on the food chain. Americans think they cannot be healthy without eating a great deal of meat; meat in excess might be harming Americans more than is realized. Homemakers need assistance in finding out about vegetable proteins and learning how to prepare them well.

4. Packaging of Food; Kitchen Waste

Packaging waste in the kitchen is a real concern. General kitchen waste should also be considered: cutting down food waste, solid and liquid waste disposal, and even time and energy waste in the kitchen. With the energy crisis as such, do homemakers need to waste energy through the current array of kitchen gadgetry?

Minimizing time and energy waste in the kitchen is not implying that home economists should emphasize the use of convenience foods. Rather, home economists should encourage "efficiency of self-sufficiency" — how to save time and energy while preparing foods from staples.

5. Self-Sufficiency and Kitchen Management

Should home economists accent the saving of homemaker's time or the saving of the environment? The answer is to accent quality of life and environment together. Many homemakers claim they have no time to cook, but even a working homemaker does not need to rely on ready-made and convenience foods from the store. She can make her own convenient mixes in bulk: biscuit, pancake, cake, and cookie mixes. She can make double or triple batches of main dishes and desserts and by freezing the extra, she makes her own convenient frozen dinners. How long does it take to make gravy? No one really needs to buy gravy in a can!

Many homemakers say they do not have the skill to make gravy, bread, soup, yogurt, mayonnaise, etc. These are not difficult and learning can be recreational. How many homemakers are already frustrated and feeling a quantity of time with nothing more stimulating than television? How much the family would appreciate the taste and aroma of home-baked bread! Home economists would stimulate quality of life and environment together by emphasizing self-sufficiency in cooking.

By encouraging homemakers to do more of their own cooking, home economists can discourage the environmental waste associated with packaged and convenience foods. The amount of package and can waste would be minimized as would the industrial waste from manufacturing and processing foods.

Students can learn to make healthful snacks that also cut down packaging waste. Homemade popcorn is better nutritionally and environmentally than potato and corn chips. Packaged cookies and convenience snacks are less economical for the family and are environmentally wasteful as well. One need only observe shoppers coming through the check-out counter to realize the tremendous packaging waste connected with snacks alone. (The nutritional story is even more appalling!)

D. CONSUMER EDUCATION AND HOME MANAGEMENT

1. Consumerism

The trend in home economics to emphasize consumer education is environmentally helpful, but specific ecological considerations should also be included in consumer decision making:

1. Is this product environmentally sound?
2. Does another brand have less packaging waste?
3. What resources did the product use; what side-line pollution does the product cause in its manufacture and use; what are its ecological effects when consumed?
4. Do the benefits derived from using the product offset the environmental damage done overall?
5. Do I really need and want this product or am I being a product of a consumer society?

Consumer society is an oft-heard description of our nation, but most students have only a vague idea of its meaning and probably no grasp of its environmental implications. A study of advertising and propaganda, as a means of encouraging Americans to buy and consume, should be included in consumer education. Would our economy really collapse if people stopped buying and consuming so much? Must Americans consume to the limit of their buying power to have quality of life?

2. Environmental Home Practices

Home Management can also be taught as an environmental homemaking unit. Numerous environmental practices can be adopted for the classroom and encouraged for home use. The list is endless but the examples following give a feel for the unit: (1) recycle and plan

ahead to cut down waste, (2) organize to save time and cut down need for convenience items, (3) buy only what you need and take care of what you have. These concepts are introduced in the other areas of environmental home economics also, but they can be taught in depth and emphasized under home management.

E. ENVIRONMENTAL HOUSING AND LIFE-STYLES

1. Home Decoration

Interior decorating can be especially fun when taught with an environmental flavor. A cozy, relaxed home environment does not rely on lavish and expensive furnishings. Some of the homes with the warmest atmospheres are actually quite modest. By improvising, recycling, and creating decorations, an imaginative homemaker can save money and the environment. Rather than using store-bought knick-knacks, which are often of poor design, the homemaker can decorate with natural objects she collects, arranges, and displays.

The home economics teacher can encourage students to arrange the classroom with environmental decorations: dried flowers and weeds in a bottle, can, or old pot; wall hangings made from scraps of yarn and cloth; plaques made from seeds, rocks, and shells; or mobiles from shells and colored glass. Students can experiment with refinishing furniture, making lamps and lampshades, and decoupage on scrap board, etc.

2. Evaluating Housing and Life-Styles

Home economists can help Americans evaluate current trends in housing and life-styles. Large houses may offer privacy but often have a sterile atmosphere. A house should not only look lived in, it should feel as though people live in it together. Do we sacrifice quality of life by striving for a quantity of organized vacuums? Is too much of the American family's life spent earning money for the "just-so" house and "just-right" furnishings? When the family isn't working to finance the house, it's maintaining the house or feeling guilty because the house isn't being maintained as well as it should be. With so much materialistic striving, what happens to the relationships within the house? A home does not happen by itself. A family needs time, energy, and mental freedom to turn a house into a real home. There are many modest, incompleted houses that are beautiful homes. Environmental housing and life-styles means quality of life, not life in quantity!

F. OCCUPATIONS RELATED TO HOME ECONOMICS

As occupations are studied, they can be evaluated for environmental consistency. Students might enjoy the challenge of thinking through methods for making occupations environmentally sound. Results of student problem solving could be shared with community representatives of those occupations.

One possibility for exploring occupations is to let students set up mock environmental businesses. Since materials used would be natural or recycled for the most part, students could actually buy

and sell in the classroom: a thrift shop; environmental hand-craft shop; recycling center; environmental alteration of clothes; home made soap and candle shop; environmental beauty salon; environmental kitchenette; or home-decorating boutique.

G. SUMMARY OF CURRICULUM IDEAS

In summary on curriculum ideas, environmental home economics is feasible and does not require as much effort as one might imagine. It is fun and creative for teacher and students. It is forward looking in that it takes preventative action against future environmental problems as well as taking realistic action against the existing problems. Home economists who are willing can adapt direction and motivate Americans toward quality of life.

PART III: ORGANIZATIONAL HELPS

A. ENVIRONMENTAL HOME ECONOMICS STUDENT COMMITTEE

The teacher is wise to include students in the planning and organizing of environmental home economics activities. This will save her a great deal of time and afford excellent opportunities for students to learn and teach. Also, students working on this committee help to motivate students in their classes. Sometimes initiating interest in environmental home economics can be painfully slow. Since Alaska is still mostly beautiful and unspoiled and quite underpopulated, environmental problems are not as visible as in the "lower forty-eight." Many students (and parents) felt a concern for Alaska's environment to be a bit ridiculous. A crisis gets attention, but preventative measures seem dull. However, a few interested students helped motivate other students through recycling activities.

Students such as Cheryl Jones and Marie Fairchild, ninth graders at Soldotna Junior High, and leaders on the student committee, helped keep classes interested in environmental home economics. They collaborated on a statement which demonstrates their enthusiasm:

"We feel Environmental Home Economics classes should be incorporated in a school curriculum, because students need to become more aware of their environment. In the past we had resources to waste, and waste them we did. Now we must conserve what we have left."

"In our home economics class we are working with environmental home economics. We're not trying to save the world, just a little piece of it. In doing so, we are having fun while learning something, too."

These two girls, and six others representing grades 7, 8, and 9 helped to challenge and stimulate others. Work for the committee was usually done in addition to regular class work, so the girls received extra credit for their efforts. They were also rewarded through release time from school to travel to other towns to meet with student and adult groups. Following are some of the ways this committee at Soldotna Junior High assisted their teacher:

1. Assisted in planning environmental home economics units and projects for class.
2. Helped make environmental files and located materials and supplies.
3. Prepared sample projects and demonstrations.
4. Helped publicize environmental efforts locally.
5. Kept notebooks and took pictures to document activities.
6. Watched for environmental problems in the school and community to discuss with home economics classes.
7. Made presentations to classes and adult groups.
8. Provided motivation to other students.

A big effort from this group of eight girls was the development of projects and demonstrations for use in their presentation entitled, "Recycling for Christmas." This presentation was given twelve times at various schools and was video-taped.

In conclusion, while the formation of an environmental home economics student committee is not necessary for teaching environmental home economics, it is highly recommended for its success.

B. INVOLVING THE SCHOOL

The school newspaper can be an effective means of publicizing environmental home economics efforts. Bulletin boards, posters, displays, as well as presentations for other classes, can help involve the entire school in environmental concerns.

Often other teachers will become motivated to incorporate environmental education into their classes. This should be encouraged. Occasionally, it will be feasible to collaborate with another teacher on a joint project. For example, a social studies teacher had one of her classes prepare a Thanksgiving dinner "from the land" as Alaskan homesteaders had done. The home economics teacher was able to assist and offer the department facilities making the project possible. In turn, the social studies teacher, who also taught the journalism class, had a few of her students assist the home economics teacher with photography and newspaper articles. English, Science, Health, and Physical Education classes can just as easily become involved.

Student Council can be encouraged to deal with environmental concerns for the school. The "energy crises" was acted upon in some schools through home economics students approaching their student council. Thermostats were lowered to 68°F, lights were used in portions of rooms rather than the entire classroom, and general energy waste was discouraged. Other clubs and organizations can be involved as individuals, schools, and situations make it possible.

C. INVOLVING F.H.A.

With a primary theme of "Decisions That Count" and a secondary theme of "Keep Alaska Beautiful," the opportunities for F.H.A. environmental projects were tremendous. Using *Action Impact*, Kenai Peninsula home economics teachers integrated F.H.A. and classroom activities more closely, with "environmental concerns for Alaskans" being an important consideration.

Whether the whole project focuses on the environment or one small idea is emphasized, the idea is to have F.H.A. help extend environmental concepts beyond the classroom. The thrift shop (see sample units section) or the repair shop (see page 17) are money-makers as well as being environmental, but simple projects are also admirable. Following are examples of F.H.A. projects in connection with this pilot program:

1. F.H.A. worked through student council to get the school to recognize the energy crisis and adopt follow-through practices in the school.

2. Experimented with recycling activities: bottle-cutting to make glasses and wind-chimes, recycling for Christmas.

3. Use of objects from nature for home decoration and classroom decorating: "Natural Art Accents for the Home," candle-making incorporating natural materials, macrame around driftwood for wall-hangings.

4. Using biodegradable soap for a car wash and a bus wash.

5. Attended a bread-baking bee put on by the senior citizens.

6. Kenai Central High had a repair service.

This card was distributed on orange paper for publicity

Services and Prices:

Hem straight skirt	$1.50
Hem coat	2.50
Replace dress zipper	1.50
Replace jacket zipper	2.00
Take in or let out back pants seam	2.00
Shorten pants	2.00
Repair ripped seam	.50
Patch jeans (per patch)	.50
Sew on button	.25
Sew on patches or letters	.25 to .75

D. INVOLVING THE COMMUNITY

The home economics teacher who first begins with environmental home economics may feel she has too much to handle herself. She will be wise to utilize students and resource persons as much as possible. If she doesn't have background on an environmental topic, her students can do much of the research work, teaching the teacher in the process. If the teacher has not developed a particular recycling skill, she can find a resource person to help her teach the class. A teacher does not have to be an expert in everything, but she should know how to use resources.

There are usually numerous resource persons in the community who would be willing to help teach if approached in a way that they realize what they could offer. For example, the wife of the Superintendent of Schools of the Kenai Peninsula Borough School District, demonstrated and taught the recycling skill of making homemade soap. The husband of a teacher practiced so he could demonstrate making bottles and bowls with a glass cutter. A mother with a large family assisted with the recycling of clothing unit, relying on her own practical experience. This adds interest and lessens teacher work load, but it also is good public relations. Students can even take the responsibility of preparing a survey sheet to identify potential resource persons. They can follow up with the invitations and arrangements and even write the thank you notes. In addition, a general call for assistance can be given via radio or local newspaper, encouraging people to call and volunteer services.

As interest develops in environmental home economics, homemakers may wish to develop an "environmental homemaking" group. This can be stimulated soon after Thanksgiving through a "recycling for Christmas" mini workshop. Students can prepare sample projects and demonstrations, but homemakers should also be encouraged to bring their ideas and sample projects. The teacher may be able to recruit volunteers to help teach a "recycling for Christmas" unit for home economics classes. This is an excellent opportunity for the home economics teacher to introduce the overall environmental program and enlist volunteers for future units.

An advisory board for home economics, if not in existence, can be developed from contacts made through the environmental program. When a board already exists, a special committee for environmental home economics can be formed. It can meet with the student committee and/or home economics teacher not only in an advisory capacity, but as participants in the adult presentations. The more assistance the teacher has, the stronger the program. Things may seem slow

at first, but once the action begins, the teacher can direct and organize while she is taught by others. She must provide the motivation and leadership; however, or efforts come to a sudden halt.

If the home economics teacher is particularly energetic, she may want to offer an organized course in "Environmental Homemaking" or "Recycling Approach to Clothing and Sewing," etc. Where there is a local community college, those home economics teachers can be encouraged to work with the program for adults. The local extension agent and/or 4-H leader may find the program challenging, and work with the teacher, students, or adults according to interest. The possibilities are tremendous!

E. STUDENT EVALUATION AND ATTITUDE SURVEYS

Many home economics teachers claim, "I've been teaching many of those so-called environmental activities for years." They wonder what is new about environmental home economics education. First, environmental home economics education is taught with specific related concepts and objectives in mind, and is organized for that purpose, not as an accidental side effect of another unit. Although environmental home economics is not taught through isolated courses and units, but rather is integrated into already existing home economics curriculum, it does have identity and should be emphasized as being environmental. As these various home economics units are studied, students begin to generalize and transfer concepts from unit to unit, thus eventually building an ecological knowledge base and attitude consistent with environmental protection.

How, then, can a teacher who teaches how to alter a garment without thinking or talking about recycling, really claim to be teaching environmental home economics, anymore than a homemaker who prepares breakfast for a family can claim to be a nutritionist. Knowledge, skill, and attitude need to accompany an environmental practice.

To help teachers determine to what degree an overall concept of environmental home economics is reaching students, evaluation sheets can be utilized. Attitude should be indicated in some way, as a negative attitude is worse than ignorance. Environmental home economics units should be enjoyable to teach and fun for students.

As students develop knowledge and skills, they should carry over what they've learned to the home. Advanced or older students should be able to relate environmental concepts to their future homemaking.

Teachers may want to develop their own evaluative instruments. The following examples have been field tested successfully and should be of help initially.

STUDENT ATTITUDE SURVEY – ENVIRONMENTAL HOME ECONOMICS EDUCATION FIRST

(May be used as a pretest at beginning of semester.)

1. Indicate the degree of feeling by circling a dot on the line.

Working With Environmental Home Economics Is

foolish	• • • • • • •	wise
fun	• • • • • • •	dull
worthless	• • • • • • •	valuable
understandable	• • • • • • •	difficult to understand
gross	• • • • • • •	neat
	3 2 1 0 1 2 3	

2. Indicate the degree to which you've used environmental home economics in your home.

Much 1 2 3 4 5 6 Little

3. How much will you use what you've learned in environmental home economics in the future?

Much 1 2 3 4 5 6 Little

4. What helped you to be involved in environmental concerns?

5. What kept you from being involved in environmental concerns?

STUDENT ATTITUDE SURVEY – ENVIRONMENTAL HOME ECONOMICS EDUCATION SECOND
(May be used as a post-test at the end of the semester.)

1. Indicate the degree of feeling by circling a dot on the line.

Studying Environmental Concerns As They Relate to Home Economics Is

smart	• • • • • • •	stupid
strange	• • • • • • •	familiar
clear	• • • • • • •	foggy
boring	• • • • • • •	enjoyable
good	• • • • • • •	bad
	3 2 1 0 1 2 3	

2. Indicate the degree to which you've used what you've learned about environmental concerns.

Much 1 2 3 4 5 6 7 Little

3. Indicate how much you plan to use what you've learned about environmental concerns in the future.

Much 1 2 3 4 5 6 7 Little

4. What helped you enjoy studying about environmental concerns?

5. What kept you from enjoying your work with environmental concerns?

ENVIRONMENTAL HOME ECONOMICS PRETEST ____ OR POST TEST ____

(Please Check One)

(For use with adults or advanced home economics students)

Date: _____

1. My effect as a homemaker on environment is a

Drop in a bucket • • • • • • Big Splash!
1 2 3 4 5 6

2. What have you read in newspapers and magazines or heard on radio and television that relates to environmental homemaking? (please use back of paper — number the question)

3. What can you do as an individual to improve the environment in your community? (please use back of paper — number the question)

4. How often do you practice the following environmental actions? (please put a check in the appropriate column)

	Never	Seldom	Often
a. Separate burnables, compost, and non-burnables; remove ends and flatten tin cans.			
b. Remodel clothes or make over garments. Resist a fashion item you don't need even if you can afford it.			
c. Cook food from "scratch" rather than buying canned and packaged convenience foods.			
d. Use *plain white* paper towels, toilet paper, napkins, and tissues.			
e. Use waxed paper instead of plastic wrap. Return empty refillable bottles to the store.			
f. Give away or donate to swap shops items your family doesn't really use.			
g. Walk to where you need to go or use hiking, bicycling, or cross country skiing for recreation.			
h. Save on use of hot water or cut down the use of electricity in the home.			
i. Car pool rides to save on gasoline or postpone trips to town until all errands can be done at once.			
j. Utilize scrap paper or old newspapers; reuse plastic bags, boxes, and other containers.			
k. Examine the *need* for buying a new electrical appliance or household item even if you can afford it.			
l. Recycle little-used or waste materials into home decorations, gifts, etc.			

F. SAMPLE CURRICULUM FOR ENVIRONMENTAL HOME ECONOMICS

The goal is to integrate environmental home economics with the existing home economics curriculum without teaching it in isolation. Following is one sample showing how it was integrated at the junior high level. Each school will have it's own plan, but can get ideas for fusing, such as was done in this school for grades 7-9. This is the descriptions given to students at registration.

101: Home Economics I-Foods and Nutrition, ½ year
This introductory course will emphasize cooking and related nutrition. Consideration will be given to purchasing groceries and kitchen equipment, cutting down on waste and disposing of it, recycling procedures and maintenance of the kitchen.

102: Home Economics II-Clothing and Textiles; Home Arts and Crafts, ½ year
This introductory course will include sewing and related study as well as interior decorating with home arts and crafts, emphasizing recycled and inexpensive materials. Recycling and maintenance of the wardrobe will be considered along with wise purchase of clothing.

103: Home Economics III-Family and Community Living, ½ year
This intermediate course will include personal relationships, problems common to junior high students, considerations for family living, factors of community living (particularly environmental issues), and will touch upon career development. There will be strong focus on child growth and development as well.

104: Home Economics IV-Review of Home Economics, ½ year
This intermediate course will have units in the following areas of home economics: (1) Human Development and the Family, (2) Consumer Education and Home Management, (3) Environmental Housing and Life-Styles, (4) Food, Nutrition, and Health, (5) Clothing, Textiles, and Grooming, and (6) Occupations Related to Home Economics. Environmental education will be introduced with each unit, as it relates to that unit.

105: Home Economics V-Special Projects, ½ year
This advanced course will be set up individually so that students may specialize in one or more of their interest areas related to home economics. The opportunity for environmental home economics will accompany available choices.

106: Home Economics VI-Survey of Home Economics, ½ year
This advanced course will review, but consider in more depth, the wide variety of home economics areas covered in the previous five courses, with consideration of their application to environmental concerns.

Courses at this school were elective, so grade levels are mixed, explaining the separation into subject areas rather than grade levels. A student could take a course each semester for three years or just one, so this required level advancement. Courses 101 and 102 were open to any beginner regardless of grade level. Courses 103 and 104 were encouraged for eighth and ninth graders, but a seventh grader could take one if either 101 or 102 had been taken previously, 105 and 106 were reserved for ninth graders who had taken three or four of the previous courses. This allowed variety for all but maintained an organized progression. Notice that all areas of home economics are included while still teaching environmental home economics.

G. ENVIRONMENTAL HOME ECONOMICS PROJECTS REPORTS

It is wise to help students organize and report on their projects. They should be led to evaluate their projects as well. An expectations report encourages students to plan the project carefully, the teacher approval allows the teacher to guide the student and be aware of what the student has in mind, and the final report allows for student and teacher evaluation and documents what has been done. The teacher can then assist the student with her plans for class presentation if needed. The reports should be kept in a student notebook or environmental project file for later use.

ENVIRONMENTAL HOME ECONOMICS PROJECTS – EXPECTATIONS FORM

1. Projects should be planned carefully in advance and approved by the teacher.

2. Projects may relate to the unit being studied or to the general area of environmental home economics.

3. Projects are to be reported on the special project form for the teacher and orally to the class as arranged with the teacher.

4. Some projects may be done in pairs or small groups when realistic to do so.

5. Fill in the following project plan for approval:

    a. How is the project environmental?
    b. What do you expect to gain or learn from this project?
    c. What materials will be needed; where do you plan to obtain them?
    d. What research will need to be done?
    e. Will the project cost anything; where will you get the money for it?
    f. When will you start the project; how long will it take (estimate)?
    g. How much, if any, class time will be needed?
    h. What special help will you require from the teacher?
    i. Make a time plan and action plan for carrying through.

6. What are the reasons for doing this project?

ENVIRONMENTAL HOME ECONOMICS PROJECT – REPORT FORM

It is hoped that students will think of creative and interesting ways to report on projects both orally and written. This report form may be used or another method may be used. (Some questions are repeated from the planning report purposely since discussion with the teacher and the actual experience of doing the project, may add considerable information.)

1. What area of home economics is involved?

2. Why was this particular project selected?

3. Explain how this project was environmental.

4. Evaluation of the project:

   a. What pleased you or went well with the project?
   b. What could be improved about the project?
   c. What was the cost of the project; was it worth the money spent to do it?
   d. Explain whether the project was satisfying or disappointing overall.
   e. What was learned from the project?

5. How will you make use of what you've learned from the project?

6. How does this project relate to your home situation or your future role as a homemaker?

7. Explain briefly how you will present this project to the class so that the other students will gain from your experience.

PART IV: SAMPLE ENVIRONMENTAL HOME ECONOMICS UNITS

Environmental education should not be taught in isolation but rather integrated into the existing home economics curriculum. As such, it is difficult to present sample environmental units herein. The experiences and activities were used in connection with the Alaska *Guidelines for Home Economics*, infusing them with the scope and sequence; content outlines for beginning, intermediate, and advanced levels; and the sample units developed for each content area. Since they are consistent with the overall Alaska home economics plan, they will be more meaningful if reviewed in relation to the mentioned material. Otherwise, the reader will need to provide the framework upon which to attach the ideas and activities.

The format of these mock units (since they actually are portions of many units brought together) deviates slightly from the unit plan used in the Alaska home economics units: General Conceptual Statements of environmental nature are given; objectives of total unit is attempted; a brief outline that would be infused into a longer outline (listed by page numbers for reference) is included to provide some framework reference, behavioral objectives are listed with accompanying learning experience ideas. Since these activities are adaptable for Grades 7-12, the teacher can best determine which experiences to incorporate at different levels, so beginning, intermediate, and advanced activities are not separated.

These sample units can best be utilized by selecting portions from them to add to existing home economics units. The feasibility of teaching environmental education and home economics together becomes apparent when the home economics teacher adapts and extends units she is presently teaching into environmental units. These sample units are merely to provide ideas for doing so, and are not complete in themselves.

A. HUMAN DEVELOPMENT AND THE FAMILY

1. Title of Unit: Environmental Concerns for the Community
   National Concept: Human Development and the Family
   General Conceptual Statements:

   The home economics class can help build sound citizens who are actively concerned about the local environment. Real environmental action rests with the individual. Scientists can tell people what they should do, government can pass laws attempting to force citizens to do it, but the individual makes the decision.

   The energy crisis; solid and liquid waste; air, water, and noise pollution; protection of wildlife, watercourses, and natural areas are some of the general concerns for most communities, but each community will have unique local problems. America's overall environmental concerns include: recognizing and preserving quality of life, the problem of population and related concerns, adequate supply of natural resources, and increasing pollution. Human development and family well-being are indirectly effected by environmental problems.

   Objectives of Total Unit:

The purpose of this unit is to help students become more environmentally aware so that they will recognize environmental problems in their communities and act, at least on a local level, to improve environmental conditions.

Outline:

(Refer to "Human Development and the Family," Alaska *Guidelines for Home Economics* pp. 10, 11, & 12.)

I. Protecting Myself and Others
   A. Recognizing and Maintaining Quality of Life
   B. Preparation for Adult Life
      1. Citizen
      2. Family Member

II. Protecting My Environment
   A. Recognizing Ecological Problems
   B. Environmental Decision-Making
   C. Taking Responsible Action
   D. Environmental Controls

Behavioral Objectives and Corresponding Learning Experiences:

a. Students will become more environmentally aware and identify general environmental concerns through participation in small group research and teaching activities.

   (1) Working in small groups and using some of the resources listed in the Annotated Bibliography of this guideline (and other available helps), students will identify some current environmental concerns and also make a list of general environmental terminology. Each group will give a brief report of their findings to the class.

   (2) Each group will select an environmental concern for their teaching presentation: the energy crises, dwindling natural resources, pollution, overpopulation, preservation of wildlife, feeding the world's people as population increases, etc. Each group will research its topic and carefully plan how to teach about it to the rest of the class using an interesting technique: panel, debate, simulation game, skit, film, questioning strategy, etc. Each group will make a bulletin board or some type of teaching aid to help it teach the lesson.

   (3) Presentations are given and evaluated. The overall project is evaluated by the class. The class selects a vocabulary list of environmental terms that it feels each student should know.

b. Students acquire practice in recognizing local environmental issues, in related group decision-making, and in carrying-through action by activities which deal with the local environmental problems.

(1) Working alone or in pairs, students identify and report on a local environmental concern. The class decides whether to act on each problem.

(2) Students break into committees to deal with the selected problems for action. Each committee researches one problem in detail and develops a suggested plan of action. Committees report to the class.

(3) The class makes final plans for action on concerns with the committee members leading and taking major responsibility for follow-through.

(4) The committee reports are given periodically ending with a final report evaluating the project.

REPORT ON *LOCAL* ENVIRONMENTAL CONCERNS

Look in your community for an environmental concern to report to the class.

Reporter: _____ Date: _____

1. Symptom (What made you notice the problem; describe the problem.)

2. Cause (Why does this problem exist; underlying reason?)

3. Suggested class action (What are some possible solutions for attacking the problem and underlying reasons for the problem?)

4. Complete after class discussion of No. 3.

   a. Does the class want to take action on this problem?

   b. If no, what do you plan to do about it?

   c. If yes, what is the class going to do?

   d. How will you personally work with the class on this problem?

SAMPLE

ENVIRONMENTAL AWARENESS TEST

Name:_____

I. List 5 general environmental concerns (2 pts. each; total of 10 pts.)

1. 4.

2. 5.

3.

II. Explain the following: (5pts. each; total of 25 pts.)

1. Recycling
2. Zero-population growth
3. Energy crises
4. Ecology
5. "Spaceship earth has a closed-system of resources"

III. Give detailed answers:

1. Describe a local environmental problem. (15 pts.)
2. What caused this problem? (10 pts.)
3. What are possible solutions to the problem? (10 pts.)

IV. Give detailed answers:

1. Explain the overpopulation concern. (15 pts.)
2. What is your opinion on the population problem? (5 pts.)
3. What do you think are possible solutions? (10 pts.)

2. Title of Unit: Environmental Play Material
National Concept: Human Development and the Family
General Conceptual Statements:

Recycled materials and recycling activities can contribute to the development of the child while making him environmentally aware. Children do not need expensive and complicated toys and play materials for optimum development. Creativity and imagination can be encouraged by providing less structured toys of versatile nature and natural or recycled materials for improvising. Children enjoy assisting in the making of playthings and gain a great deal from the process, especially through the personal relationships involved. Well-meaning parents who buy expensive and complicated toys for their children would do better to give of their time to help children create their own playthings.

Objectives of Total Unit:

The purpose of the unit is to encourgage students to spend time with and for younger brothers and sisters (or younger relatives or neighborhood children) recycling materials to be used for play, hopefully so that this approach to children's playthings will be carried to their future children.

Outline:

(Refer to Alaska *Guidelines for Home Economics* pp. 9-11, 13-14.)

I. Meaning and Value of Play
   A. Affecting Development Patterns
   B. Relating to Creativity and Imagination
   C. Relating to Socialization Process
      1. Broadening Relationships
      2. Strengthening Family Relations
      3. Developing Personality

II. Selection of Play Equipment and Materials
   A. For Child's Optimum Development
   B. For Safety and Health
   C. For Environmental Protection
      1. Quality or Quantity?
      2. Preventive Maintenance and Repair
      3. Natural, Improvised, and Recycled Materials

Behavioral Objectives and Corresponding Learning Experiences:

a. Students will evaluate play materials and toys for children using a method developed in class.

   (1) Have students read p. 9-12 concerning play materials in *People and Their Environment, Home Economics - Grades 9-12,* editor Mathew J. Brennan, J. G. Ferguson Publishing Company, 6 North Michigan Avenue, Chicago, Illinois 60602, 1968-soft-cover.

(a) Use the following or a similar questioning strategy to stimulate class discussion:

[1] What is your reaction to the case study of the Smiths and Martins?
[2] Why did the Smith children like to go to the Martin home?
[3] How did all the members of the Martin family benefit from making and recycling play material?
[4] Why is there an increasing supply of children's toys on the market today?
[5] Why do parents sometimes indulge their children in too many or too expensive toys?
[6] How does the interest of parents (or lack of it) affect the quality of life for the child?
[7] Make a summarizing statement about what has been discussed.

(b) Each student will make a summarizing statement about what they've learned about play materials for children. A small committee of girls will organize these into a summary to be written on the board for the next activity.

(2) The class develops a check-sheet for evaluating children's playthings.

(3) Each student will borrow from a child a plaything that she thinks will rate favorably on the check-sheet and one she thinks will rate unfavorably. These playthings are brought to class on a scheduled day.

(4) The class evaluates the items using the check-sheet in small committees. Each committee also rates their group of playthings in order of preference. A summarizing report is given to the entire class.

(5) The teacher should follow with a questioning strategy: examples, [a] What makes a good plaything? [b] What makes a poor plaything? [c] Did the check-sheet the class devised measure reliably?

b. Students will develop recycling skills in relation to children's toys and playthings by carrying through two projects to be presented before the class.

(1) Each student will develop a desirable child's toy out of recycled materials. Then the student will explain to the class how it was made and why it is environmental.

(2) Working in groups of three or four, students will develop an environmental activity which can be used for babysitting or that would work in a nursery school situation. The group will demonstrate how to prepare for this activity and carry-through. (Examples: homemade play dough, homemade finger paint, art activities using natural and recycled materials, simple toys children can construct with help using recycled materials, rhythm band instruments from recycled materials for a parade, etc.)

c. Students will utilize what they've developed in relation to recycled playthings through activities with children.

(1) Using a planned method, pairs or small groups of students will work with small groups of children (nursery school situation, home activity party, or while babysitting) using recycled playthings and activities. An evaluative report is given to the class.

(2) Hold a series of activity classes for children in the classroom with groups of students taking turns leading the activities using recycled materials and toys. The class evaluates each session and the total project.

d. Students will encourage families to utilize environmental playthings and toys by making known what they've been doing and why.

(1) The class can devise a presentation for mothers to encourage them to use environmental play materials. Directions, finished products on display, and a few sample demonstrations can be organized by the class or a few interested students.

(2) Students can discuss their activities with their parents and attempt to get other family members involved in a weekly recycling session that can involve children.

e. Carry-over the recycled playthings concept to FHA through a project that supplements class activity.

(1) Hold a session devoted to repair of toys and the creation of toys from recycled materials. These toys can be given at Christmas time to needy children.

(2) Hold a contest for the school at Christmas time to see who can devise the most orginal toy for children using all recycled materials.

(3) Organize a project where older sisters assist brothers and sisters in making Christmas gifts for members of the family using environmental materials.

B. CLOTHING, TEXTILES, AND GROOMING

1. Title of Unit: Recycling Approach to Sewing and Clothing
National Concept: Textiles and Clothing
General Conceptual Statements:

Fashion may be fun, but it leads to waste! Recent trends encourage individuality of dress, but fashion still overly influences many people. Fashion does have psychological aspects, but these can be maintained more environmentally by stressing fashion individuality through a recycling approach to clothing.

Families need not discard perfectly wearable outfits and shoes because fashion dictates they are outmoded. Families should buy what is needed, use goods fully, and maintain what they have rather than buying clothes and accessories to appear fashionable. Major wardrobe items should be simple and versatile with fashion entering through accessories and less expensive homemade accents. Since even sewing has become expensive, the wardrobe should be planned very carefully so that items work well together.

Recycling can be recreational and creative as well as economical and environmental. Recycled materials can often be utilized very effectively in handcrafts which enhance the wardrobe. Imagination can help one recycle an item to be surprisingly fashionable because it speaks of the personality of the wearer. The challenge of improvising and altering can become quite stimulating as experience is gained.

Objectives of Total Unit:

The purpose of the unit is to encourage the evaluation of fashion and dress from an environmental viewpoint, and to provide the incentive, opportunity, and basic skills necessary for individual follow-through action that will be more consistent with environmental protection.

Outline:

(Refer to "Textiles and Clothing," Alaska *Guidelines for Home Economics*, pp. 47-55.)

I. Importance of Clothing Care
   - A. Maintenance
     1. Prevention
     2. Repair
     3. Laundry
        - a. Laundry Products
        - b. Procedure
     4. Dry Cleaning
     5. Pressing
     6. Storage
     7. Equipment
   - B. Recycling
     1. Through Sewing
        - a. Major items
        - b. Accessories
     2. Through Handcrafts
        - a. Quilting and Smocking
        - b. Macrame
        - c. Batik and Tie-Dying
        - d. Knitting and Crocheting
        - e. Embroidery

II. Psychological Aspects of Dress
   - A. Fashion
   - B. Individuality
     1. Enhancing Personality
     2. The Total Look

Behavioral Objectives and Corresponding Learning Experiences:

a. Each girl will indicate her progress by recycling her existing wardrobe so that it better suits her individual needs and by helping someone else use what she does not want.

(1) Divide wardrobe as follows:

(a) Clothes that she likes, which fit well, and need no repair:

[1] Those that are clean and pressed are to be hung up again in closet or put in drawers, etc.

[2] Those that need washing, pressing, or dry cleaning are separated accordingly and hung in the closet when ready.

(b) Clothes which she likes that don't fit quite right, need some repair, or have a stain, etc - put in one box.

(c) Clothes that are slightly out-of-fashion or need coordination - put in another box.

(d) Clothes she doesn't like or doesn't use - put in a third box.

(2) Wear to class on a scheduled day the favorite outfit from group (a). The class will discuss how to develop a "total look" with that outfit. Each girl will plan to make an accessory to compliment it or a simple garment to mix-match with it, using recycled materials.

(3) Bring to class an item or two from group (b). The class will "problem solve" with these — altering, lengthening, shortening, removing stains, etc. As the unit continues, the girls work with other items from this group, helping each other.

(4) Bring to class an item from group (c). Girls work together to perk-up these items. As unit continues, the girls work with other items from this group.

(5) Bring to class all items from group (d). The class will decide how to trade, give-away, or otherwise make useful these items. (Example: swap-shop or thrift-shop). Follow-through with the chosen class activity.

(6) When the wardrobe is recycled, give a presentation on the project, evaluating such things as time, energy, cost, satisfaction, etc. (Project forms given under Part III: Organizational Helps of this guideline are helpful for carrying through this activity.

b. To demonstrate progress in sewing and handcraft skills by making garments and/or accessories that enhance the recycled wardrobe.

(1) Improve sewing skills through a large sewing project that will coordinate well

with the recycled wardrobe and strengthen a weak area of the wardrobe.

(2) While waiting for an available sewing machine or for assistance, be working on improving a handwork skill by making a recycled project to extend the recycled wardrobe — improvise with materials available at home or at school for recycling. Contribute to a collection of materials for recycling to be kept in the classroom for student use.

(3) Have the girls begin a file of directions and ideas for recycling using handcrafts and sewing skills; students can organize a recycling box for their personal use so that they will have materials on hand for their projects as the unit progresses.

c. To involve others in the concept of recycled wardrobes by including as much of the family as possible and enlightening the school, neighborhood, or community about activities and the reasons for doing projects.

(1) Invite mothers to a scheduled class early in the unit for an explanation of the unit activities on recycling; request assistance from the mothers and set up plans for each volunteer to help.

(2) In class discuss ways to involve the family and peers in similar recycling projects. Try to get a thrift shop or swap shop started in the school or community through FHA or a homemaking club.

(3) Give presentations to students and adults with girls modeling recycled outfits and explaining what they did — example: have a "Recycling Fashion Show."

2. Title of Unit: Naturalness in Personal Environment
National Concept: Textiles and Clothing
General Conceptual Statements:

Achieve the natural look through health habits which positively affect appearance. A minimum of make up and cosmetics should be used: only when really needed and products used should be as natural as possible. Chemicals and drugs cause personal pollution. People pollute their bodies without realizing it through such products as hair sprays, which are harmful to the lungs, and deodorants containing aluminum compounds which clog the pores.

Even when the body is not polluted, the waste that goes into water systems can be environmentally detrimental; laundry procedures and personal hygiene may produce clean-appearing bodies while adding pollution to water. Some practices may seem harmless but cause problems: for example, the use of colored toilet paper and tissues is unwise. Paper products disintegrate but the dye given off at the manufacturing plant and by disposal remains in the water systems. Gynecologists trace certain infections and irritations to scented, colored toilet paper.

Fashion should not come before personal health and environmental well-being. Such things as bleaching and dying of hair indicate a need to examine values in relation to real quality of life.

Objectives of Total Unit:

The purpose of this unit is to make students aware that pollution relates to bodies as well as the earth and to encourage them to evaluate and adapt their personal habits so as to be more environmentally sound.

Outline:

(Refer to Alaska *Guidelines for Home Economics*, pp. 47 & 48.)

I. Improvement of Natural Attractiveness
   A. Natural Beauty Aids
   B. Environmental Hair Care

II. Effect of Health Habits on Appearance
   A. Diet
   B. Exercise and Fresh Air
   C. Rest
   D. Use of Chemicals and Drugs
      1. Externally
      2. Internally

III. Personal Pollution
   A. Directly Affecting Body
   B. Affecting the Ecology

IV. Values
   A. What Is Beauty?
   B. What Is Moderation?
   C. What Is Personal Well-Being?
   D. What Is Real Quality of Life?

Behavioral Objectives and Corresponding Learning Experiences:

a. Through a variety of classroom activities, students will evaluate, research, and experiment to determine how to be more environmentally sound with personal hygiene practices and products.

   (1) Have each girl make a list of every cosmetic or personal hygiene article she uses: deodorants, hair sprays, perfumes, specific makeup items, etc.

   (2) Working in small groups have the class arrange personal hygiene practices into categories: Necessary, questionable, unnecessary — examples, brushing teeth, using lipstick, using hair spray. Be ready to report to the class the committees ideas.

   (3) Have a class discussion on the reasons why people often use needless products and unnecessary practices. Have students do follow up research using such books as *The Medicine Show* by the editors of *Consumer Reports*.

(4) Of articles that are generally considered necessary such as soap, shampoo, deodorant, etc., have committees use *Consumer Reports* or other sources to determine which products are best for the desired result.

(5) Then have the same committees follow through by determining which products are best environmentally or what natural ingredients could be effectively substituted that would be better for the ecology: example, lemon rinse for blondes and vinegar rinse for brunettes; after bath lotion of baby oil and lemon juice; olive oil for dry skin, etc.

(6) Of the personal hygiene practices generally considered questionable or unnecessary have the committees "problem solve" methods for getting around their use: examples: simplified hairdo to eliminate the need for permanents, dying the hair, and hair sprays; better health habits to provide better color and condition of the complexion eliminating the need for as much makeup; brushing teeth more carefully by hand so an electric toothbrush is not needed, etc.

(7) Have each committee plan a class session for a specific area: hair care, makeup, cleanliness, health practices, etc. Then have a series of classes led by the various committees in which the class experiments with practices that have been determined by the class to be more environmentally sound.

(8) Utilize resource people to help each committee with their session of teaching environmental practices in a workshop situation.

b. Students will identify personal pollution and evaluate related peer practices by participating in class activities which give them an opportunity to focus on these concepts. (Since students often complain about the techniques teachers use to teach about smoking, alcohol, and drugs, the logical approach is to have them learn in the process of preparing for and teaching others. As such, these activities are mentioned without detail as students will plan their own activities.)

(1) Have the class divide into three working groups to deal with smoking, alcohol, and drugs from an environmental viewpoint: relating to personal pollution as it directly affects the body as well as how it affects the ecology.

(2) Have each committee research and discuss their topic environmentally.

(3) Each committee will devise a method for teaching about their area as it relates to personal pollution: techniques may vary; skits, simulation games, debates, panels, film and questioning strategy, demonstration, etc.

(4) Each committee gives its presentation to the rest of the class. The class evaluates each presentation and the overall project.

(5) The class draws upon class experiences to develop a presentation for student and adult groups on one of the categories. (Presentations for all three may be given as interest and time permit.)

C. FOODS, NUTRITION, AND HEALTH

1. Title of Unit: Eating Lower on the Food Chain
   National Concept: Nutrition and Foods
   General Conceptual Statements:

   Americans consume an unproportionate percentage of food of animal origin (less than 6% of the world's population and consumes 30%). High protein by-products fit for human consumption are shipped from other countries and fed to America's animals. All flesh is grass; there is a ten-fold waste of food energy with each progression up the food chain. Americans can release more protein and food energy for protein-starved and hungry nations by eating partially lower on the food chain.

   Soybeans and other plant proteins can be inexpensive and palatable. Incomplete proteins can be complemented resulting in a considerable increase of available complete protein.

   DDT gets more concentrated as it progresses up the food chain. Consumption of animal fats has a relation to coronary heart disease and hardening of the arteries. There are several health reasons for eating lower on the food chain.

   Objectives of Total Unit:

   The purpose of this unit is to help students recognize the environmental responsibility of Americans to eat lower on the food chain as well as the advisability for health reasons, and to provide some of the basic knowledge and skills needed to act accordingly.

Outline:

(Refer to "Nutrition and Foods" in the Alaska *Guidelines for Home Economics*, pp. 40, 42, 43, and 45).

I. World Food and Nutrition
   - A. Hunger and Malnutrition
   - B. Increasing the World Food Supply
   - C. Role of Food in International Relations
   - D. Population Expansion

II. Influence of Cultural Factors
   - A. Religion
   - B. Nationality
   - C. Regional Preferences
   - D. Advertising
   - E. Status Value of Food
   - F. Socio-Economic Level
   - G. Concept of Edible Foods

III. Influence of Individual Experience

IV. Affect of Education

A. Awareness of Environmental Factors
B. Awareness of Related Sanitation and Health Problems

Behavioral Objectives and Corresponding Learning Experiences:

a. Students will become aware of the environmental and health reasons for eating lower on the food chain through participation in class activities which help them recognize and research related problems.

(1) The teacher will use the simulation game related to this topic which is listed in Part VI: Appendix of this guideline with the students and encourage discussion through a questioning strategy such as the one listed to accompany the game.

(2) The teacher will prepare a short presentation or request the assistance of a resource person in introducing the concept of food chains (check with science teachers or the resources listed in the appendix under Annotated Bibliography of this guideline). Make a bulletin board or visual aid to help teach this concept.

Concept Help I: "The Real Energy Crises Is The Cow" – Explain using the information below to supplement your research.

Trophic Levels of the Food Chain

1st Trophic Level:	1000 g. producers	–	plants, algae
2nd Trophic Level:	100 g. primary consumer	–	herbivores (cattle, Oriental man)
3rd Trophic Level:	10 g. secondary consumer	–	carnivores (some animals, most men)
4th Trophic Level:	1 g. tertiary consumer	–	sometimes man

For each step on the food chain there is a ten-fold loss of food energy. More land is needed to produce food at each level as all flesh is grass. There is a tremendous use of land and loss of food energy to produce a marbled steak.

To demonstrate the food chain concept use small foods of like size but of varying preference. Measure them out to exemplify the food chain levels:

(1) 1000 pea beans or pinto beans to represent the amount of food energy available from producers at the first trophic level.

(2) 100 raisins to show the amount of available food energy has decreased but the general food preference has increased.

(3) 10 peanuts for the third trophic level.

(4) 1 filbert or other example of more expensive or generally preferred item.

Concept Help II: Some environmentalists predict a food crash in the near future if world population is not slowed regarding rate of expansion:

Food is Produced in Arithmetic Progression

1	2	3	4	5	6	7
1	2	4	8	16	32	64

Population Increases in Geometric Progression

Demonstrate this using a generally desired larger food item such as an apple. Have one person stand and give him an apple. Add another person to represent the second step and add another apple. Have the population double to eight and add one more apple, etc.

Concept Help III: Result of Eating Partially Lower on the Food Chain

Person 1

50% of calories from animal sources

		Plant Energy Units
1500 calories from animal sources	=	15,000
1500 calories from plant sources	=	1,500
3000 calories		16,500

Person 2

30% of calories from animal sources

		Plant Energy Units
1000 calories from animal sources	=	10,000
2000 calories from plant sources	=	2,000
3000 calories		12,000

Person 3

10% of calories from animal sources

300 calories from animal sources	=	3,000
2,700 from plant sources	=	2,700
3,000 calories		5,700

Concept Help IV: Food Chain Examples

a. Trophic Level I: Plants
II: Vegetables

b. Trophic Level I: Plants
II: Cow
III: Man

c. Trophic Level I: Plants
II: Cow
III: Pig, which is fed milk and dairy meat scraps from the table as part of diet
IV: Man

d. Trophic Level I: Plants
II: Aquatic Insect Eats Plants
III: Small Insect - Eating Fish Eats Insect
IV: Large Fish Eats Small Fish
V: Man Eats Fish

Concept Help V: DDT does not noticeably affect; its effect is subtle.

(1) Lowering of sex hormones

(2) Increase of tumors

(3) Human cancer victims have two times more DDT in fatty tissue

(4) Alters glucose metabolism (could diabetes be related?)

(5) DDT stored in fat; obese persons may need to be careful about losing weight rapidly

(6) Mother's milk generally has a DDT level over the recommendation for cow's milk; breast feeding may be questionable.

To demonstrate that DDT concentration increases with each step up the food chain, add a piece of rice to each example in Concept Help I. A piece of rice is hardly noticeable at the 1000 g. level but very noticeable at the 1 g. level. Have students determine the levels for cow's milk and mother's milk to understand about the DDT problem for breast feeding.

(3) Using suggested resources listed in the Annotated Bibliography, students will work in small groups to research related topics and report back to the class a summary of their findings. The group will produce a visual concept help for class reference as a bulletin board, poster, etc. Examples of topics: All Flesh Is Grass, The Real Energy Crises Is The Cow, Understanding Food Chains, DDT and Relation to Food Chains, DDT and Relation to Breast Feeding, Animal Fats and Relation to Food Chains, Animal Fats and Relation to Coronary Heart Disease, Hormone — Injections In Beef and Poultry, Protein-Starved and Hungry Nations, Feeding the World's People as Population Increases, etc.

b. Through class activities that will indicate progress in gaining knowledge and skills, students will utilize their understanding of the use of plant proteins and eating lower on the food chain.

(Diet For A Small Planet, Recipes For A Small Planet, The Soybean Cookbook listed in the Annotated Bibliography of this guideline will be particularly helpful.)

(1) The teacher will introduce the concepts of essential amino acids, complete and incomplete proteins, and complementary plant proteins.

(2) The teacher and students will experiment with the cooking of soybeans and soybean products to make them more palatable. (Example: soaking a few hours and freezing in the soaking water deepens the flavor, pressure cooking softens the bean.)

(3) Students will try various recipes using complementary plant proteins.

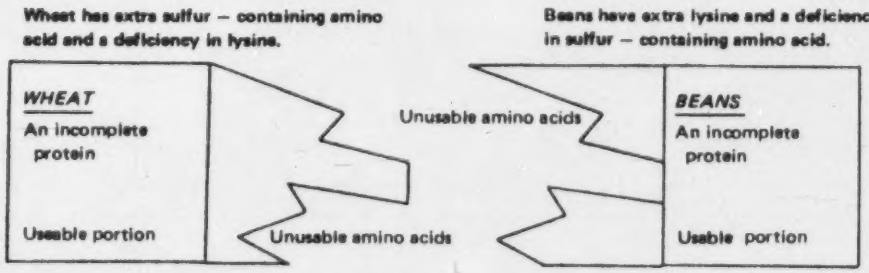
(4) Students will prepare high-protein vegetarian meals after planning menus very carefully.

(5) Students will put on a high-protein buffet for guests. All foods can be related to eating lower on the food chain. After the meal or before, students are to give a presentation to the guests explaining the significance of the meal and their related environmental activities.

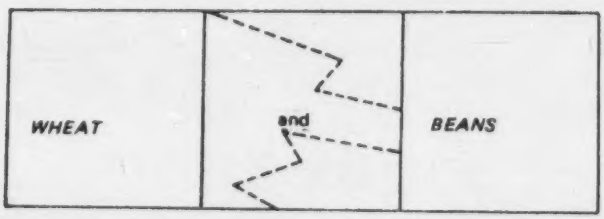
Concept Help A.: Complementary Plant Proteins

If even one amino acid is low, then the protein can only be utilized until the low amino acid is used, then the rest of the incomplete protein cannot be used. Two incomplete proteins can be utilized together to provide a complete protein. The exaggerated example below will help the students grasp the concept.

Think of the amino acids as fitting together as puzzle pieces. Some foods, such as milk, eggs, meat, fish, cheese, etc., have completed puzzles. All the essential amino acids are present in the right amount for the body to use. Some foods have incomplete puzzles and need to be pieced together: many plant products can be used as complements with one or more other plant products.


Wheat has extra sulfur – containing amino acid and a deficiency in lysine.
Beans have extra lysine and a deficiency in sulfur – containing amino acid.
WHEAT
An incomplete protein
Useable portion
Unusable amino acids
Unusable amino acids
BEANS
An incomplete protein
Usable portion

Used separately the proteins are not utilized efficiently.



Making a Complete Protein Together

Concept Help B.: Complementary proteins should be used in proportionate amounts; example: ½ cup beans with 1 1/3 cups of rice, ¼ cup soy flour with 1¼ cups rice, ½ cup rice and ¼ cup brewer's yeast, ½ cup whole wheat flour and 1/8 cup soy flour, 1½ cups peanuts and 2 cups sunflower seeds.

Plant protein can also be complemented with milk and cheese to make complete proteins: ½ cup peanut butter to ¾ cup of milk, one large potato to a cup of milk. ½ cup of beans to 1 cup of milk.

The books listed in the Annotated Bibliography of this guide will handle this in detail: *Diet For A Small Planet; Recipes For A Small Planet.*

2. Title of Unit: Efficiency and Self Sufficiency
National Concept: Nutrition and Foods
General Conceptual Statements:

It is possible to save both the homemaker's time and the environment through efficiency and self sufficiency. Even a working homemaker does not need to rely on ready-made and convenience foods from the store if she organizes: convenient mixes can be prepared in bulk, double or triple batches of main dishes and desserts can be prepared so that the extra can be frozen for later use, learning of basic cooking skills can enable the homemaker to prepare many items from start quite easily and quickly.

Being efficient and self sufficient is challenging, rewarding, and recreational. It often improves quality of life for the family, especially when several family members get involved. Good management saves money and cuts down on waste.

Objectives of Total Unit:

The purpose of the unit is to encourage students to be more efficient and self sufficient in the kitchen and to provide opportunity in class for them to experiment with better management and related food preparation techniques.

Outline:

(Refer to the Alaska *Guidelines for Home Economics,* pp. 39, 41, 42, & 46.)

I. Managing Resources
   A. Time
   B. Energy
   C. Supplies
   D. Equipment

II. Cooking Short Cuts
   A. Convenience Foods and Mixes
      1. Making Own
      2. Preserving and Storing
   B. Efficient Preparation
      1. Motion Economy
      2. Work Simplification

III. Food Facts and Fallacies
- A. Relating to Nutrition
- B. Relating to Health
- C. Relating to the Environment

Behavioral Objectives and Corresponding Learning Experiences:

a. Students will become more efficient and self sufficient in the kitchen by participating in classroom activities that allow experimentation and indicate progress in related skills.

(1) Have students make homemade root beer and beverages from sources that eliminate buying cans and bottles. Students will recycle bottles for containers.

(2) Help students experiment with homemade snacks that would eliminate the buying of packaged treats and partially-prepared packaged items.

(3) Encourage students to make their own mixes in class and then experiment with their use to eliminate the need to buy packaged mixes and convenience foods.

(4) Assist students in freezing and reheating main dishes and desserts which can be made in double or triple recipes at home to substitute for convenience foods and T.V. dinners.

(5) Teach some basic cooking skills that eliminate the need to buy in a can or package: example, how to make good gravy, how to season effectively, how to make sauces and dressings (mayonnaise) etc. Teach students how to make them efficiently so they will not revert to canned gravy and packaged macaroni and cheese.

(6) Teach how to make some more difficult products so students will make them instead of buying them prepared or partially prepared: French fries from start, doughnuts and fritters, homemade rolls and bread, cakes, pies, old-fashioned stews, creamed soups, etc.

(7) Experiment with some unusual preparations: grinding own wheat to make flour, homemade yogurt or cottage cheese, granola, freezing and canning, etc.

(8) Conduct some experiments in motion economy, work simplification, and time management.

(9) Have students experiment with use of leftovers and unused portions of ingredients as well as vegetable waters remaining after cooking.

b. Students will gain some experience and knowledge in running a kitchen environmentally through participation in class activities that encourage research and related follow through that is more ecological.

(1) Working in pairs students select an area of kitchen management to research and

follow through with a demonstration for the class showing how to be more environmental for the selected area: examples, disposal of kitchen waste, cleaning agents, appliances and equipment, containers for storage, selecting supplies with the least packaging waste, cutting down use of paper and plastic, etc.

(2) Each girl will recycle something to use in the kitchen or use materials normally wasted in the kitchen to make a recycled product.

(3) Working in small groups, students will select a category of grocery goods to evaluate for chemical additives. The group will do related research to find out about these additives and make a report about the advisability of their use to the rest of the class. The committee will also try to determine which brand names in their category have the least additives and are least harmful to the body overall.

D. CONSUMER EDUCATION AND HOME MANAGEMENT

1. Title of Unit: The Environmental Consumer
National Concept: Consumer Education and Management
General Conceptual Statements:

The earth is a closed life-support system: that is, space and resources are limited. The United States comprises 6% of the world population, yet it consumes 50% of the world natural resources. The United States has an electricity doubling time of ten years. As the American standard of living increases, Americans consume more natural resources, some of which are already near depletion.

If man is to live harmoniously with his environment, he must examine his consumer patterns. The American needs to consider the environmental implications of his consumer decision-making, for he is using an unfair share of consumable natural resources. Environmental decisions should represent the good of man collectively rather than the whims of one man. Man's long-term well-being should also be considered.

The American consumer needs to waste less of what he buys and refrain from consuming so much. Too many Americans equate standard of living and quality of life. Developing inner resources can decrease the need for consuming natural resources. The United States consumer should evaluate his motives for consuming to the limit of his buying power.

Objectives of Total Unit:

The purpose of the unit is to help students examine the American consumer philosophy from an environmental viewpoint and to encourage students to consider the collective good of man in their consumer decisions and actions.

Outline:

(Refer to "Consumer Education and Management" in the Alaska *Guidelines for Home Economics*, pp. 19-27.)

I. Use of Resources
   - A. Creative Use
     1. Recycling
     2. Improvising
     3. Preventive Maintenance
   - B. Efficient Use
     1. Moderation
     2. Management
     3. Maintenance

II. Responsibility of Consumer to Environment
   - A. Decision-Making
     1. Personal
        - a. Individual
        - b. Family

2. Collective
    a. Community
    b. Corporate
    c. Government

B. Consumer Buying
    1. Establishing Priorities
    2. Values, Standards, and Goals
    3. Spending Ethic
    4. Comparison Shopping
    5. Decision-Making

C. Product Evaluation
    1. In Relation to Personal Resources
    2. In Relation to Natural Resources

Behavioral Objectives and Accompanying Learning Experiences:

a. To participate in projects that will encourage environmental consumer practices, indicated by actual follow-through action in the home economics labs and general classroom situation.

(1) Using the ideas in Part V: Guidelines to Citizen Action, have students break into groups and compile a list of suggested environmental consumer practices for an aspect of consumer education: examples; Related to Clothing and Textiles, Related to Foods and Nutrition, Related to Personal Environment, Related to Home and Home Furnishings, Related to Children, Related to Family Recreation, Related to Transportation, etc.

(2) After compiling a list (with references to assist them) have each committee give a presentation to the rest of the class in which they demonstrate or otherwise visibly teach about some of the guidelines: for example; showing about packaging waste with actual packages, show examples of recycled paper products and where to get them, how to recycle to replace kitchen paper products, etc. These should be examples not already shown in class. If preferred, some committees may use a skit, simulation game, or other interesting teaching activity.

(3) Have the class set-up an evaluative list for evaluating the presentations prior to giving them. As presentations are given, have the students answer the question for each group. Follow the project with discussion. Ideas for group evaluation sheets:

(a) Was the presentation interesting?
(b) Did the presentation stay consistent with the selected topic?
(c) Was the presentation given with environmental emphasis?
(d) Did the group follow direction?
(e) Did the group teach something worthwhile?
(f) Did everyone participate?
(g) Was the group well prepared?

(4) Have a committee compile environmental consumer actions into a booklet or other teaching aid for class reference.

(5) Have the class make plans for adopting some of these citizen guidelines for use in the home economics room. Small committees can be responsible for seeing that reminders are put around the room and to tactfully help enforce one or two selected practices: example; during sewing classes, a small group is to see that material is recycled and not thrown away. a small committee can work on wasting of paper in the classroom, etc.

b. Students will indicate development of knowledge and skills that will help them to be better environmental consumers at home, by participating in classroom projects and outside assignments designed to make them more environmentally aware.

(1) Using Vance Packard's Books: *The Hidden Persuaders, The Status Seekers,* and *The Waste Makers* as well as other available resources, students will make a two-page written report on "Why Americans Consume So Much."

(2) The teacher will help students study about propaganda and how consumers are affected by advertising. Have students collect types of propaganda and make a bulletin board, posters, or other visual aids to demonstrate their understanding of the concepts.

(3) Have students go to various stores to identify gimmicks to entice people to buy more. This can be done in pairs who are assigned to evaluate separate stores. Students report on findings to the rest of the class.

(4) Using *Consumer Report* magazine or setting up product comparison studies of their own, have groups of students evaluate a type of product for environmental affect, identifying products that are most environmental: example; soaps and detergents, automobiles, kitchen appliances, etc.

(5) Evaluate advertising claims related to environment: example; the new trash compacters actually put trash in a form that can't be recycled; advertising slogans using such appeals as "Beat the Energy Crises..." or "Protect the Environment by..." Some are authentically environmental; some are not.

(6) Have a swap shop day: students bring books, magazines, records, games, etc., they don't want to swap with others.

(7) Study about "Health Food Stores" and evaluate them. Experiment with and discuss ways of getting the same benefits without spending as much money. Examples; how to organize a co-op for desired products not found in regular stores, making yoghurt and granola at home, balancing diet to eliminate need for vitamin supplements, products found in regular stores relatively free of additives, etc.

(8) Make a check-list to determine the amount of paper towels, plastic forks, paper plates, etc., used by family and friends. Have each girl survey 10 homemakers.

Make some generalizations after compiling the results. Think of a way the class can use this survey to encourage those same homemakers to cut down the use of those products.

(9) Experiment with methods of using plastic packaging to make useful items instead of burning them. (A lethal gas is given off when they are burned.)

(10) Make a presentation to another class in which you advertise products that are most environmental: example; use skits or mock commercials to get the idea across — a frost-free refrigerator uses 45% more electricity than one that needs defrosting so a commercial could teach this idea to an audience in a fun way.

2. Title Unit: Environmental Home Practices
National Concept: Consumer Education and Management
General Conceptual Statements:

Homemakers can help protect the environment through sound home management. Environmental home practices can also be economical and challenging for the family. All families would ultimately benefit from the following: plan ahead and recycle to cut waste, organize to save time and reduce need for time-saving products, buying only what is needed and caring for what is already owned. Wise use of family and community resources will have many benefits.

Objectives of Total Unit:

The purpose of the unit is to help students realize that home management practices affect the environment and to provide an opportunity for students to recognize and experiment with environmental home management activities.

Outline:

(Refer to Alaska *Guidelines for Home Economics* pp. 19-27.)

I. Environmental Home Management
   A. Resources
      1. Identifying
      2. Efficient Utilization
      3. Moderation
      4. Allocation
   B. Process Evaluation
      1. To Benefit the Home
      2. To Benefit the Ecology
   C. Decision-Making
      1. Individual
      2. Family

II. Allocating Tasks
   A. Establishing Priorities
   B. Rules for Family Members

Behavioral Objectives and Accompanying Learning Experiences:

a. Students will gain awareness of how home management practices affect the community environment through participating in experiences which focus on the community handling of water, electricity, and garbage.

(1) Visit the sites of sewage disposal. Look for evidence of detergent still remaining as water is put back into the water source. Were there any other products noticeable such as oil or dye. If so, where did they come from? What practices in the home could be changed to reduce problems?

(2) Find out how the electrical energy is produced for your home by visiting the electrical plant. Try to determine how use of this energy affects the environment of your community.

(3) Find out how your home gets its water and where it goes after home use. Test or get results of tests of the quality of the water when it comes into the community and when it leaves.

(4) Visit the local site for solid waste disposal. Find out what recycling methods are being used in your community. How much waste does your community deposit in the site for a given time? Evaluate the method of disposing of refuse.

b. Students will focus on garbage problems as applied to the home and school by participating in activities that point out some of these problems.

(1) Inventory the school garbage at the end of the day. Find out what items comprise the bulk of the garbage. Can any of these items have been used more efficiently before disposal? Can the amount of waste be reduced?

(2) Make a chart to show the types of solid waste in the garbage at home: milk cartons, cans, plastic containers, food scraps, bottles, newspapers, magazines, etc. List them in order of amount for the week (check each day for a week). Now try to figure some ways to eliminate some of the waste or recycle it before it is thrown away the next week. Report your ideas to the class. Example: if there are lots of newspapers, would it be possible for your family to share a newspaper with a neighbor? Could the food scraps be recycled to a neighbor's dog or put in a compost pile?

(3) Have the class compile ideas for cutting down garbage waste. Each student will discuss this list with his family. The family will be asked to cooperate on a project for a week to see if garbage can be cut down. The student makes a comparison chart for activity 2 with the results of the next week considered. The results are discussed with the family and the class.

Concept Help: In 1971, Americans threw away some 200 million tons of solid waste, not including seven million cars discarded. A typical proportion of waste follows: 59% paper and cardboard; 10% wood, lawn, and garden waste; 9% food waste, 8.5% glass, other ceramics and ash; 7.5% metal waste; 6% clothes,

plastics, rubber, leather, and plain dirt. The average citizen of the United States is responsible for about a ton of solid waste each year!

Where does this waste go? Usually it is deposited in the city dump, the local landfill, or various sized incinerators — all of which produce problems. Open dumping is very unsanitary: breeding germs, insects and disease. It is also aesthetically unappealing as well as contributing to pollution of land, air, and water. Land fills are more pleasing to the sight and smell but can also cause pollution. What happens when space for garbage burial runs out? Incinerators cause air pollution especially through lethal gases from PVC (poly-vinyl chloride) packaging containers. When burned, PVC produces corrosive gases that seriously damage plants and trees.

(4) Have students make a list of products packaged in PVC containers, made of styrofoam, or otherwise questionable packaging items. Use this list to educate others and encourage cutting down waste from these products. (Students should research to make sure their recommendations are not unfair.)

(5) Experiment with recycling of the containers listed in activity 4 so people who continue to buy the product listed will have some ideas for using the container instead of burning it.

(6) Each person contributes about five pounds per day to the trash can. Using a standard measure such as a 30 gallon trash can or measuring with plastic trash bags, have students see if their family follows this pattern before and after activities 2 and 3.

E. ENVIRONMENTAL HOUSING AND LIFE-STYLES

1. Title of Unit: Environmental Home Decoration
   National Concept: Housing and Life-Styles
   General Conceptual Statements:

   A cozy, relaxed home environment does not rely on lavish and expensive furnishings. Some of the homes with the warmest atmospheres are actually quite modest. By improvising, recycling, and creating decorations, an imaginative homemaker can save money and the environment. Rather than using store-bought knick-knacks which are often of poor design, the homemaker can decorate with natural objects she collects, arranges, and displays. The process can be most enjoyable, especially as it involves other family members and the home will express the personality of its occupants.

   Objectives of Total Unit:

   The purpose of the unit is to help students realize that an environmentally decorated home can have a great deal of personality and warmth and to provide an opportunity for students to experiment with home decoration skills using natural and recycled materials and objects.

Outline:

(Refer to "Environmental Housing and Life-Styles" in the Alaska *Guidelines for Home Economics* pp. 29-37.)

I. Recognizing Beauty
   - A. Simplicity
   - B. Naturalness
   - C. Design
   - D. Color

II. Self-Expression
   - A. Personalizing
   - B. Harmonizing
   - C. Imagination
     1. Improvising
     2. Recycling
   - D. Do It Yourself
     1. Sewing Accessories
     2. Decorative Handcrafts

III. Decision Making
   - A. Function
   - B. Family Needs
   - C. Ease of Maintenance
   - D. Family Talents
   - E. Affect on Environment

Behavioral Objectives and Accompanying Learning Experiences:

a. Demonstrate an understanding of the recycling process by recycling home decorations using recyclable materials found in the home or school.

(1) Start a recycling box by collecting materials from the home that can be used for recycling. Bring to school. Swap some materials with classmates to get more variety.

(2) Working in pairs collect materials from the home economics room that can be used for recycling. (Ask the teacher's permission before using.)

(3) Check the school garbage and your home garbage for unusual objects for recycling.

(4) Make a recycled decoration for the schoolroom using the collected materials for recycling. Display appropriately in the classroom and explain to the class how it was made.

(5) Make a recycled decoration for your room at home using the materials you collected. Explain to the class how you did it.

(6) Start a collection of recycling ideas either on note cards or in file folders, etc., using your ideas and some you like demonstrated in class. Also check through magazines for ideas for filing.

(7) Learn a new handcraft that can be utilized for recycling and make a home decoration using that handcraft and recycled materials: example, a wall hanging, a mobile, an embroidered picture you designed yourself, etc.

b. Develop an appreciation and some skill for using natural objects as art accents in the home through the completion of two projects in class using materials collected from nature.

(1) Take trips to the beach or to other places to start a collection of natural objects that could be used for decorating: shells, rocks, driftwood, fungus growths, dried weeds, birch bark, etc.

(2) Using a piece of driftwood, birch bark, old bottle or other recycled container, make an arrangement from dried flowers and weeds. Display appropriately in the classroom. The class will evaluate for design and display.

(3) Make an interesting and beautiful home decoration using collected natural objects: example, macrame on a piece of driftwood, make a mobile out of shells and polished glass found on the beach, or make a plaque from seeds or rocks, etc.

2. Title of Unit: Environmental Life-Style
National Concept: Housing and Life-Styles
General Conceptual Statements:

Environmental life-style refers to quality of life, not life in quantity. Too many Americans spend their lives in materialistic striving. Personal development and human relationships should be stressed more in our consumer society.

Too much of the American family's time is spent earning money for the "just-so" house and "just-right" furnishings. Relationships suffer in the family as time, energy, and effort are expended for materialistic goals. Parents can help their children be happier by giving them less materially and giving them more quality-time: that is, time given with love spent on meaningful activities.

Americans need to think more of their emotional and spiritual development, as well as a physical well-being that means more than physical comfort. Only by building inner resources will Americans begin to find contentment and peace of mind, not from consuming more natural resources. Environmental life-style means drastic change in values, standards, and goals for most Americans. Consequently, most people will not change life-style until environmental conditions leave them no choice.

Objectives of Total Unit:

The purpose of this unit is to provide the opportunity and incentive for students to evaluate the American way of life and to develop a personal life-style philosophy as well as experimenting with some of the aspects of environmental life-style.

Outline:

(Refer to Alaska *Guidelines for Home Economics*, pp. 29-37.)

I. Values, Standards, and Goals
   A. Quality of Life
   B. Standard of Living

II. Human Development
   A. Size of Family
      1. Planned Parenthood
      2. Adoption
      3. Zero-population Expansion
   B. Stages in Family Life Cycle
      1. Child Growth
      2. Adolescent Development
      3. Adult Maturation
   C. Decision-Making
      1. Personal Needs and Desires
         a. Privacy and Human Interaction
         b. Individuality and Creativity
         c. Education and Self-Improvement

d. Employment and Avocations
e. Leisure Time and Volunteer Time
f. Recreation and Hobbies

2. Management
   a. Transportation
   b. Personal Property
   c. Housing
   d. Recycling and Waste Disposal
   e. Consumption of Natural Resources

Behavioral Objectives and Corresponding Learning Experiences:

a. Students will focus on environmental life-styles as contrasted with non-environmental life-styles and help educate others about environmental family life through organizing and carrying through a simulation documentary to be presented to at least one other class.

   (1) The class will separate into small groups to prepare sections for a simulation documentary on the life-styles of two families: The Whites, representing an American family actively concerned about the environment and the Blacks, who are oblivious to environmental problems, and obviously add to them. The small groups will select areas of family life for focus: example, holiday celebrations and vacations, number of children and their activities, recreation and hobbies of family members, the house — exterior and interior, homemaking pattern, meal and kitchen management, shopping and consumer practices, practices related to clothing, transportation, occupations and community services, etc.

   (2) After doing related research for their topic, students will present two skits: the first will be on the White family and the second on the Black family. These skits will contrast the life-styles of the two families in relation to the selected topic.

   (3) The class will evaluate the presentations and discuss ways to polish them for a presentation for another class. Each group will adapt and polish their section of the presentation, and present it again for the class.

   (4) After evaluation, the teacher will arrange a date and class presentation for some other class in the school, such as a social studies class held at the same time.

   (5) The class will present the documentary to the selected group and afterwards evaluate the entire project. The class will discuss whether to give the presentation for another group.

b. Students will relate environmental life-styles to their own lives by participating in an activity relating to their future and a series of activities relating to their present.

   (1) Each girl will realistically plan an environmental home that she feels that she could accept as her own home: including floor plans, exterior and interior of

house, furnishings and equipment, etc. The student will describe family activities for this home and explain how it is environmental.

(2) Through three or four committees, the class will plan and carry through a number of environmental family activities dealing with holidays and vacations, recreation and hobbies, and children's activities. Each committee will organize and carry through the activity including the rest of the class: examples, environmental indoor hobby session, environmental outdoor recreation activity, environmental birthday party, etc. The idea is for students to experience the fun and challenge of environmental life-style activities. Each committee activity will be evaluated after its session involving the total class.

F. OCCUPATIONS RELATED TO HOME ECONOMICS

1. Title of Unit: Mock Environmental Businesses
National Concept: Occupations/Emphasis
General Conceptual Statements:

It is possible to earn money or consume and still be relatively consistent with environmental protection. Some careers and avocations contribute to quality of life and do not drain from natural resources nor cause undue side pollution. A serious environmentalist will evaluate the means of making his money as well as his decisions for spending it.

Objectives of Total Unit:

Students will have the opportunity to experience, through mock businesses, ways to earn and spend money without draining natural resources or causing undue side pollution. Perhaps these simulation activities will have some carry over affect on their future career decisions.

Outline:

(Refer to "Occupational Emphasis" in Alaska *Guidelines for Home Economics*, pp. 57-78.)

I. Factors in Selecting a Career or Avocation
   A. Personal Desires and Interests
   B. Personal Qualities, Aptitudes, and Capabilities
   C. Values, Standards, and Goals
   D. Educational and Training Requirements
   E. Employment Opportunities

II. Environmental Careers and Avocations
   A. Directly Environmental
      1. Forestry
      2. Conservation
      3. Ecology
      4. Environmental Management
   B. Indirectly Environmental
   C. Related to Home Economics

Behavioral Objectives and Corresponding Learning Experiences:

a. Students will experiment with environmental practices; gain some ability in managing time and money; and become involved in planning, decision making, and working with others toward a common goal, through planning and carrying through a mock business in relation to a special interest area of home economics.

   (1) Working in groups of two to four, students will make a list of environmentally-flavored occupations related to the various areas of home economics. The class will discuss the ideas and make a list for reference.

(2) Working in the same groups, each group will select a business from the list which it will conduct. Students will receive the criterion from the teacher or the class will establish criterion: who to sell to, where the money will go, what classroom facilities and supplies may be used, what days business will operate, etc. Also guidelines for keeping records and making reports will be established.

(3) Students will make tentative plans for carrying out the project. After teacher approval, students may begin preparing and setting up.

(4) Students will make an oral and written presentation mid-way in the project and at the completion.

(5) Daily records are kept on activities, time spent by each group member, expenses and profits, materials used and where or how they were obtained.

(6) Students will consider supply and demand factor, advertising techniques, and competition ethics as the unit progresses.

(7) Students will evaluate their project and the overall class unit. If feasible, pictures and tape recordings can be made to document the class activities.

When field tested, a two week unit was tried. Some of the business ideas included: "Environmental Toys for Tots," "Naturally-You Salon," "Doctor Fix-It," (repair service) "The Sew Again Shop," "Eating from the Land Restaurant," "Scratch-It-Up Delicatessen," "Recycling Handicraft Service," (items made to order) "Environmental Home Decorator Boutique," and "The Scavenger-Hunt" (thrift shop).

b. Students will do follow through activity in relation to their completed mock business and the real business world to see if their choice if feasible as an avocation or vocation.

(1) Research materials and talk to resource people to find out as much information as possible about how to run the mock business as a business or avocation in your community. Find out what training or education would increase success or skill.

(2) Determine the feasibility of incorporating the project in your community by making plans as though you were going to do it: what location would be best for the type of service, what clientele can be anticipated, is there a need for the service, where would the business be set up and what rent would be charged, what overhead would be included, how could the business be licensed, would the idea be profit making, etc.

(3) Make a presentation to the class with your findings and evaluations.

2. Title of Unit: The Thrift Shop
National Concept: Occupational/Emphasis
General Conceptual Statements:

The thrift shop is an excellent means of recycling materials and goods that would otherwise be discarded or remain unused. It lightens the use of natural resources by efficiently using what is available. A thrift shop is environmental, economical, avocational, recreational.

Objectives of Total Unit:

To provide experience with recycling through an avocation that relates to home economics and to encourage students to establish and patronize thrift shops.

Outline:

(Relates to "Occupational Emphasis" in the Alaska *Guidelines for Home Economics*, pp. 57-78.)

I. Avocations
   A. Employment
   B. Recreation
   C. Experience
   D. Personal Satisfaction

II. The Thrift Shop
   A. Environmental
      1. Recycling and Improvising
      2. Efficient Use of Natural Resources
   B. Economical
      1. Provides Income
      2. Inexpensive Goods
   C. Avocational
   D. Relates to Home Economics

Behavioral Objectives and Corresponding Learning Experiences:

a. As an F.H.A. or class money-making project and to gain knowledge and experience related to an environmental service, students will organize and carry through a thrift shop in the school.

   (1) Divide available workers into committees of responsibility even though students are not confined to that area for participation. Example: public relations and advertising (in charge of bringing in customers), recycling and collection (in charge of getting materials and objects and supervising the recycling of them), shop display and selling (setting up the shop attractively and selling to customers), and managerial and business department (overall management and record keeping).

(2) Spend time as needed in a united effort to gather materials and get them ready for sale. The committee will organize, but all will help.

(3) Meanwhile, the project is to be cleared through the administration and student council.

(4) Publicity should be started.

(5) An attractive shop should be set up.

(6) When all is ready the shop is to be opened, but the collection and recycling should be continued to keep a ready supply.

(7) The business committee should consider supply and demand and profit-making items and make recommendations to help business success.

(8) The public relations committee should create new advertising ideas to be changed periodically.

b. Participate in evaluation activities by periodically meeting as a complete group to evaluate the thrift shop progress and overall success.

(1) Meet daily as a group when the thrift shop first opens for a few minutes of evaluation. Each committee will give a short report. Problems and needs will be discussed and follow through plans made.

(2) As the thrift shop progresses, group meetings can be weekly with committees reporting and recommendations given for further action.

(3) A final evaluation is given by each committee at the completion of the project. Each participant will, in some way determined by the group, help to evaluate the overall project.

G. BONUS UNIT

1. Title of Unit: Recycling For Christmas
National Concept: Housing and Life-Style
General Conceptual Statements:

Christmas has become commercialized to the point that many Americans have mixed feelings about its arrival. Some families go into debt to provide materialistic gifts their members request. Many of these gifts turn into later disappointments.

Christmas used to be a delightful spiritual holiday emphasizing human love and celebrating the birth of Jesus Christ. Today it is often celebrated as an elaborate birthday party where all the guests get many lavish gifts while the honored guest remains uninvited. Many Americans would like to get Christ back into Christmas or at least tone down the commercialism.

Christmas can be made more meaningful by focusing on the human relationships and giving gifts that speak of love and personal involvement. Since the commercialism causes tremendous waste and increases use of natural resources, besides draining the family bank account, Christmas can be celebrated more environmentally by recycling materials and goods into gifts and decorations. Cards and gift wraps can also be improvised. These activities can be recreational and help to improve human relationships through the making and the giving.

Objectives of Total Unit:

The purpose of the unit is to have students evaluate the American celebration of Christmas and participate in some recycling activities that make the celebration more environmental, so that students might carry the recycling concept to their present and future homes.

Outline:

I. Recycling
   - A. Application
     1. Gifts
     2. Decorations
     3. Cards
     4. Gift Wraps
   - B. Through Sewing
     1. Make Overs
     2. Scrap Materials
   - C. Through Home Crafts
     1. Natural Objects
     2. Scrap Materials

II. Benefits
   - A. Human Relationships
     1. While Creating

2. From Giving

B. Economical

C. Recreational

D. Environmental

Behavioral Objectives and Corresponding Learning Experiences:

a. Students will experiment with recycling skills and improve demonstration skills through a series of recycling projects and through two demonstrations teaching how to recycle for Christmas.

(1) Before Thanksgiving recess, the teacher will assign that each student will start a collection of materials and ideas to be used for a "Recycling for Christmas" unit.

(2) After Thanksgiving recess, the unit will start and continue almost to Christmas recess. Students are asked to bring materials and ideas the next day. The teacher helps to motivate students by presenting ideas she completed and by giving at least one demonstration. The class will help prepare an evaluation sheet for demonstrations to be used for student demonstrations.

(3) Working in pairs, the students will select an idea relating to a recycled gift, decoration, card, or gift wrap. After preparing a demonstration, each pair of students will present a demonstration to the class, which the class will evaluate on the prepared evaluation form.

(4) The class evaluates the whole project and makes changes in the evaluation sheet if desired. The class develops a working plan for preparing and giving demonstrations as a guide for the next demonstration.

(5) Each student prepares a demonstration showing how to recycle something that has not yet been shown. Other students evaluate using the evaluation form. (See sample in Appendix of this guideline.)

(6) The rest of the unit, students use ideas given in class and new ideas to recycle for Christmas. Their products are kept in separate recycled decorated boxes so that each student's work can be evaluated later by the teacher and projects can be kept neat.

(7) Meanwhile, the teacher asks for volunteers to serve on a presentation committee to meet with student and adult groups concerning "Recycling for Christmas." Since students will be involved in individual projects, the class will devise a form for reporting plans for projects, use of time, and project evaluation, etc. (See Organization Helps of this guideline for a sample.)

b. Students will share recycling for Christmas ideas with other students and adults by participating on a presentation committee or by lending creations to a committee member.

(1) Students working on the committee will receive extra credit according to extra effort. It works well to have a few representatives from several classes to form an overall coordinating committee. Interested students prepare displays, explanatory directions, and demonstrations for use in presentations to student and adult groups.

(2) Students not on the committee will cooperate with a committee member who will explain about their creations for them.

(3) The teacher and coordinating committee will publicize the available service and set up presentation details with other classes and adult clubs. A practice presentation could be given to the art class meeting during the same period. Release time from classes and transportation can be arranged so presentations can be given in other schools. Pictures can be taken and reports written for the school and local newspaper.

(4) As each presentation is given, the committee evaluates and reports back to the home economics class sharing experiences.

(5) At the end of the unit, student's box of recycled creations is reorganized so that all projects are returned and the teacher can better evaluate each student's work. The total project is also evaluated.

PART V: GUIDELINES TO CITIZEN ACTION

It would be difficult to include all possible guidelines for environmental home economics action and practices, but following is an outline giving samples. Students can benefit from doing reference work and using imagination to develop lists for the environmental units they cover. At the end of the year, a committee can compile a list similar to the one outlined which can be distributed to homemakers. It will be an excellent environmental learning experience for students to compile their own lists rather than copying this, but this outline should be a helpful guide for the teacher in giving them ideas.

A. HUMAN DEVELOPMENT AND THE FAMILY

1. Personal

   a. Do not litter. This is the easiest pollution to personally stop!

   b. Buy recycled paper, utilize scrap paper, and use both sides of the paper. Remember paper comes from trees — 17 large trees equals one ton of paper.

   c. Kick the cigarette habit and we'll all breathe easier.

   d. Share items with friends and relatives to avoid duplicate purchasing. Does everyone on a block need to subscribe to the same newspapers and magazines?

   e. Spend less time with machines; develop hobbies and skills that make you more self-sufficient; relate more with the natural environment, especially in recreation.

   f. Rely more on inner resources for entertainment than on consumerism and machines to fill leisure; evaluate your life-style.

   g. Return unopened junk mail to the sender.

   h. Don't accept paper bags at the store for items you can otherwise carry. To get the stores behind the fight on packaging waste, leave some of it on the counter. If enough people complain and leave the packaging behind, the store manager will eventually complain to the manufacturer.

   i. Be vocal about waste and pollution.

   j. Keep phone calls short and to a minimum. They tie up lines that use power.

2. Family

   a. Keep radio, T.V., or phonograph to a reasonable level.

   b. Motor vehicles contribute a good half to this country's air pollution and add to the energy crisis. When possible, walk, bicycle, use mass transit systems, or form car

pools to help reduce the number of cars on the road. Plan schedules and trips to the store to eliminate extra trips with the car.

c. Improve family relations through non-motorized activities in the natural environment: camping, hiking, cross-country skiing, canoeing, tenting, sailing, back-packing, horseback riding, skating, gardening, etc.

d. Develop indoor family activities that require inner resources: games, hobbies, reading, playing an instrument, cooking and other home arts and crafts, woodworking, refinishing furniture, etc.

e. Cut down family consumerism by consciously adopting family spending policies through a family council.

f. Have family members discuss and educate each other on environmental concerns. Read available material and take family action when feasible.

g. Keep your car well tuned so it emits less pollutants. Do not idle your automobile any more than necessary. Make sure it does not leak oil. Make sure the car muffler does not add to noise pollution.

3. Community

a. Encourage neighborhood clean-up campaigns.

b. Encourage effective sign and billboard control.

c. Encourage the establishment of community recycling centers.

d. Organize and/or participate in community action groups concerned with environment.

e. If you recognize an environmental concern locally, contact officials, bombard newspapers, T.V., or radio stations with letters. Publicity hurts polluters! Also, contact congressmen concerning environmental lawmaking; ask them what they are doing about environmental problems that interest you.

f. Support environmental education in the schools.

g. Support effective poliution control measures for air and water.

h. Support environmental methods of solid waste disposal.

i. Be concerned for the protection of wildlife, water courses, and natural areas.

j. Organize a group to paint over graffiti in public places.

4. Child Growth and Development

a. Buy good quality, long-lasting toys; do not buy noisy toys for children; use imagination to create play materials for children. Buy toys in moderation and maintain them. Wooden toys last longer and may be passed to the next generation.

b. Disposable diapers are convenient, but cloth diapers are better for environmental protection.

c. Help children become environmentally aware and appreciative. Begin early to teach them anti-litter and anti-pollution practices. Set a good example yourself. If a member of the family litters, insist that he clean up.

d. Make Christmas gifts for children stressing the personal relationships rather than the commercialism. Help children make gifts and remembrances for others to set the pattern. Buy children things they really need when you buy for Christmas.

e. Consider the possibility of having only two of your own children and adopting if you want more children.

f. Consciously try to preserve quality of life so your children will have the same environmental opportunities you do.

B. CLOTHING, TEXTILES, AND GROOMING

1. Bring old clothing to thrift shops for resale or donate it to charitable organizations.

2. Make cloth napkins and recycle old unusable clothing for rags instead of relying totally on paper towels and napkins. (If you must buy these, buy plain white.)

3. Use plain white toilet paper and tissues. (Use handkerchiefs when possible.) Dyes released in manufacturing process pollute, paper will disintegrate, but the dye will remain in the water system.

4. Use cosmetics that have the least detrimental effect on the environment. Consider achieving the "natural look" as naturally as possible. Cut down on makeup, elaborate hair styles that require hair spray and beauty parlor assistance, and on unnecessary jewelry and adornment. Use natural products such as vinegar, lemon, and olive oil to make cosmetic aids.

5. Remember that off-white yarn and material is attractive. Do not bleach unnecessarily to keep white clothes, sheets, etc., "whiter-than-white." Dyeing items is not objectionable to recycle items instead of buying new.

6. Adopt a recycling approach to clothing and fashion. Do not let fashion dictate what you will wear and how you will wear it. Be an individual. Buy clothing that will remain tasteful for a long time. If you must indulge in fashion and fads, do so with accessories and/or simple garments you can make yourself.

7. Learn crafts to be more self-sufficient: knitting, crocheting, weaving, macrame, quilting, etc. Use recycled items for these crafts as much as possible.

8. Sponsor a thrift shop or swap shop through F.H.A. or home economics classes or other organizations. Encourage homemakers to do likewise for the community.

9. Evaluate the purchasing of alligator purses and shoes, wild fur coats, or other products made from skins or feathers of wildlife. Never buy wild animal furs or skins!

10. When possible use a clothesline for drying clothes. Save the dryer for rainy days and emergencies. Clothes dryers are one of our greatest users of energy.

11. When washing clothes, washing soda (2-4 T.) will aid in maximum cleaning without using phosphates. Soap powders will get most laundry clean, but be sure to rinse out detergent thoroughly first with soda and water in the washing machine before adding soap when you first switch; otherwise, some clothes may yellow!

12. Cotton, wool, linen, and leather are renewable resources. Synthetic fabrics are made from limited resources. Consider what your clothing and materials are made from.

13. Wear warmer clothes and carry a sweater for use in cool rooms. Lower room temperature does conserve fuel.

14. Make and use shopping and litter bags from scraps of materials or old jeans.

C. FOODS, NUTRITION, AND HEALTH

1. Make homemade root beer using bottles on hand, instead of buying pop in cans; make popcorn and other snacks at home instead of buying packaged treats.

2. Make own mixes at home in bulk to save time, but eliminate the need to buy packaged mixes and convenience foods.

3. Make double or triple recipes and freeze to save time and eliminate the need to purchase prepared foods from the store.

4. Be as self-sufficient as possible in cooking. Good management in the kitchen saves time and energy and eliminates much of the need for canned and packaged products.

5. Avoid foods that have chemical additives or are over processed. It is not only a nutrition and health question, but the chemical processing is also polluting and consumes natural resources unnecessarily.

6. Do not pollute your body through your mouth; evaluate carefully what you eat and drink.

7. Even when you have only a small yard, you can grow something for family use. When possible, collect wild foods for eating.

8. Compost your garbage for the garden. Feed scraps to wild birds or your pets. Save grass clippings to add nutrition to the garden soil.

9. Remember to use vegetable water in soups and learn to use those leftovers palatably.

10. Revive the metal lunch box to save on paper waste.

11. Cut down the use of plastic wrap especially, but also waxed paper as possible.

D. CONSUMER EDUCATION AND HOME MANAGEMENT

1. Consumerism

a. Buy products in returnable bottles when possible.

b. Buy products that have as little packaging waste as possible.

c. Buy one large size product rather than several smaller or individual servings.

d. Use decomposable containers (biodegradable) when feasible. When other things must be used, keep recycling them instead of throwing away. Soft plastic and styrofoam give off harmful gas when burned.

e. Take shopping bags or paper bags with you to the store instead of using new each time.

f. When feasible, purchase and use recycled products. Recycled paper products are becoming more widely available.

g. Accept produce with blemishes caused by insects or blight. Farmers are often forced to use chemical sprays merely to save a mar in appearance of produce so it will sell.

h. When you buy a product ask yourself, "Do I really need this? Is this brand the best choice environmentally? Could I make this myself? Could I borrow this from a friend instead?" Think about all purchases carefully. Buy good quality, long-lasting items.

i. Avoid buying liquids sold in milk-white plastic containers. They are very harmful when burned.

2. Environmental Home Practices

a. Wash and re-use plastic bags and glass and plastic containers.

b. Use detergents with care. Phosphates upset the ecological balance of aquatic life. Use soap for all but heavily soiled items.

c. Garden naturally. Use organic fertilizers. Build a compost heap to recycle garbage.

d. Give cooking fat to birds or use it to make soap.

e. Avoid the use of persistent pesticides, especially the hydrocarbons (DDT, etc.,) and those containing arsenic, lead, or mercury. Use helpful insects and strong-smelling herbs to control pests naturally.

f. Cut down on extra appliances and gadgets and do work manually when possible. Manufacture of appliances and gadgets pollutes and uses natural resources, expending extra energy.

g. Lower electrical consumption in relation to the energy crisis, but also to reduce thermal water pollution at the electrical plant and other pollution associated with building larger plants to provide more electrical energy.

h. Maintain the home and household equipment for longer use.

i. Cut down on waste in the home through careful management; recycle as much as possible; plan ahead.

j. Organize to save time and cut down need for convenience items. A good organizer will have time to be more self-sufficient.

k. Buy only what you need and take care of what you have. Don't forget preventive maintenance. Repair as needed to lengthen use.

l. Cut down the use of chemicals. Many cleaning agents are unnecessary: soap and water, water and vinegar, water and baking soda, etc., often do as well. For example, newspapers dampened can clean windows. Amway LOC and Shaklee Basic H are high powered; but are also biodegradable. They can clean a wide variety of things.

m. Conserve on use of water when possible. For example, placing a couple of bricks in the toilet tank will cut down on the amount of water for each flushing. Be conscious of water use at all times. Protest when you see continually flowing drinking fountains and babblers in public places. Repair your leaky faucets. Use heater tapes instead of leaving water running to keep from freezing in sub-zero weather. Watch use of hot water.

n. Use lower wattage bulbs except when more light is needed for reading. Have lights on only as necessary.

o. Reduce your share of refuse. Flatten boxes, cans, and containers.

p. Most of us can use the exercise, so reach for a fly swatter instead of the spray can.

q. Use air conditioners as little as possible.

E. ENVIRONMENTAL HOUSING AND LIFE-STYLES

1. Make your own canister set and decorate bottles and jars for storing foods. Buy foods in plain, paper packages to store in your own containers.

2. Decorate the home with natural and recycled products: dried flower and weed arrangements in a bottle, a can or old pot; wall hangings with scraps of yarn and cloth; plaques with seeds, rocks, shells; mobiles with shells, colored glass (there is no end to the possibilities).

3. Refinish furniture and make simple picture frames and bookcases, etc.

4. Make your own Christmas decorations, cards, and gifts. Decorate newspapers and paper bags for gift wrappings or decorate containers to camouflage gifts.

5. Use attractive rocks, shells, glass balls, and bottles washed ashore to decorate instead of buying knick-knacks.

6. Make own lamps and lampshades.

7. Help make your school building and its grounds more attractive.

8. Determine what is needed for the home and what is luxury. Particularly limit the family on unneeded electrical knives, can openers, fry pans, toothbrushes, blankets, etc.

9. Use air conditioners less by land scaping around the home for shade. Make sure the home is well insulated against heat and cold. Draw drapes at night and morning in hot weather.

10. Shut fireplace damper when not in use; close off vents in unused rooms, let the sun help warm the house in cold weather by drawing drapes. Turn heat down at night.

11. Let your yard go natural as possible while still being clean and attractive. Keep as much greenery as possible in your yard — no unnecessary pavement or gravel.

12. Encourage birds to your yard through bird feeding stations.

13. Plant window boxes and gardens to give off oxygen.

F. OCCUPATIONS RELATED TO HOME ECONOMICS

1. Evaluate businesses for environmental consistency and send letters to them encouraging practices that are environmental and discouraging those that are obviously environmentally detrimental. Explain that their action will be a deciding factor in your patronage.

2. As much as feasible support stores and businesses that are the most ecologically sound or concerned.

3. Consider ways to make your own family's earnings come from endeavors that are environmentally consistent.

4. Do not invest in stocks and bonds of companies that badly pollute or waste natural resources.

5. Consider avocations that are environmentally sound as a means of earning money and at the same time helping the environment. If you don't really need the money, volunteer some time and energy. What would this world be like if everybody worked for their community welfare only for pay? The homemaker can often do volunteer work that will be tremendously rewarding that a bread winner might not have the opportunity, time, or energy to do.

PART VI: APPENDIX

A. TEACHING TECHNIQUES

While helpful for any teaching, the following techniques are useful vehicles for conveying environmental information leading to generalizations. The activity remains student oriented. Instead of the teacher lecturing and otherwise "spoon-feeding" students, the student has to act and think.

1. Simulation Games*

   Simulation games are quite varied and are similar to role playing, but get into topics with more depth. They can be simple or quite involved but require the students to put themselves into real-life situations for follow through. Students usually get quite involved with these activities.

   A complicated simulation, but an excellent tool for dealing with interest-group environmental concerns is described below:

   a. The class divides into groups representing various interest groups. In a simulation related to snowmobiles, students divided into four groups: (1) families with snowmobiles, (2) snowmobile manufacturers and fuel companies, (3) families disliking snowmobiles, and (4) people concerned for environment.

   b. Working in groups, students read and research the topic looking for evidence to support their viewpoint and facts to help them refute what they suppose an opposing group might use to support its viewpoint.

   c. Filling a concept chart is an excellent organizational tool for information and concepts (see number 2 following).

   d. Then the class proceeds through six rounds:

      (1) Each group states the position they represent (short, basic facts given).

      (2) Each group emphasizes their position (states facts and supporting evidence strongly and at length).

      (3) Each group has five minutes to ask other groups questions. (The other groups may not answer at this time).

      (4) Each group has ten minutes to ask other groups questions (other groups respond at this time).

      (5) Open questioning for about ten or fifteen minutes (any student can ask any question for any other group to answer).

      (6) Final summary (each group briefly pulls their case together).

*This information was not taken from the article but the reader may also enjoy referring to "Simulation is the Name of the Game," *Journal of Home Economics*, February, 1973.

e. The simulation takes several days to play, but really gets into a controversial topic with depth without getting one-sided. It is an excellent group dynamics activity as well. A panel of three judges listens as the game is played, and after announces which group played the game best.

f. The teacher does a follow-up questioning strategy (explanation follows later in this Part, No. 4).

Not all simulations need be this involved. Skit-like simulations are easy but teach a point in a stimulating way. For example, a simulation on population increase follows:

a. Block off a small section of the room.

b. Select one student to enter (students are told to move and enjoy freedom as much as room permits).

c. Then another student enters. After a few seconds of moving, have two more students enter at once. As they move a bit, have four students enter at once. Continue doubling the population — 1, 2, 4, 8, 16 until all students are participating.

d. By the time students have all entered, the space is crowded and movement has been complicated. At some point students either stopped moving or organized direction. Follow this short game with a questioning strategy.

   (1) How did you feel Number 1 as the population continued to double and the space reminded the same?

   (2) How did the last group feel when they entered?

   (3) What happens to freedom and rights as conditions become crowded?

   (4) At what point does the quality of freedom become hampered?

   (5) What becomes necessary for safety of those involved as numbers continue to double?

   (6) How does this game relate to real life?

   (7) Make a summarizing statement about what we have learned from this game.

Another fun simulation can be done with "Feeding the World Population" or "Eating Lower on the Food Chain."

a. Have 6% of the available students represent the United States. Have one person represent America's animals and get down on hands and knees to the side of the United States students. Have the rest of the students stand as a group apart from these students (or student depending on the size of the group).

b. Bring out a plate of cookies or another treat students would like but not enough so

that each person will have one. Count the pieces or portion that would comprise 30% of the treat. Tell the students this represents America's portion of animal-origin food. Turn that amount over to the group representing the U.S. (have them wait to eat).

c. Take the 70% and tell the rest of the students it is theirs. Let them divide it unfairly as it would be worldwide (have them wait to eat).

d. Have several of the 70% turn their portion over to someone else and give them some plain rice to eat, but lots of it.

e. Have the United States buy some food from two people in exchange for some money. This amount bought is to be handed over to the animal.

f. Now that everyone has their realistic but unfair portion, have them eat. Important: Do not give more food to anyone as this would spoil the effect of the game. If someone feels slighted, this is the way it is in life, and this should be pointed out.

g. After the food is consumed, ask questions such as follow, but do not let the U.S. representatives give away any food they can't eat to anyone but the animal.

(1) To the United States people: How did you feel as you ate your portion of food? To the plain rice group: How did you feel as you ate your rice? To the others: How did you feel?

(2) How did everyone feel when the United States animal got its portion?

(3) What does this game tell you about relationships between countries and feeding the world?

(4) What would happen if we had the same amount of food but twice as many people?

(5) Will the United States continue to claim the same proportion of food as population increases?

(6) Make a summarizing statement about what we've realized from playing this game.

2. Concept Charts

Students need help organizing their ideas and researched materials, especially for simulation games. These charts encourage students to work in small groups, freeing the teacher to give special assistance to students who need it while others work at their own rate. They also encourage students to think through and research a topic. On the next page is an example of a concept chart, but the teacher can devise her own easily. This particular one was used with the snowmobile simulation mentioned previously.

EXAMPLE I: Concept Chart to Accompany Snowmobile Simulation
(What would each group comment for the listed categories?)

	PRO		CON	
	Families with Snowmobiles	Snowmobile Manufacturers and Fuel Companies	Families Disliking Snowmobiles	People Concerned for Environment
Wildlife — Plant Life				
Wildlife — Animals				
Pollution — Noise				
Pollution — Air				
Pollution — Trash				
Transportation				
Expense				
Recreation and Fun				
For Work				
Making Trails				
Health & Safety				
Other				

3. Questioning Strategy

Often a teacher presents an interesting film, short story, newspaper clipping, or case study to a class, but has difficulty getting anything but superficial discussion. The questioning strategy helps the teacher lead to the generalization or concept statement without "pulling teeth" to get it. Examples of questioning strategies were used with the simulation games previously.

a. Start with an *open question*. This allows general reaction and everyone can contribute without fear of being wrong – provides scope.

b. Next, use one or more *focusing questions*. This brings attention to the information that the students need for thinking in the next question type. Also, focusing questions help to get to the depth of an issue.

c. Then use one or two *interpretive questions*. Students must use the information previously discussed and think through an answer that is not obvious. Answers are often quite profound.

d. Finally, use a *capstone question*. This acts as a summary for the discussion and brings out generalizing statements.

To illustrate specific questions, following is a questioning strategy that could be used after the snowmobile simulation game. This focuses on the game itself rather than the subject, so could be used for a similar game. After the first time, the focus would be on the subject.

a. *Open Questions:*

(1) What are some of the things you noticed about this simulation game?
(2) How did you feel about having to represent one group consistently?

b. *Focusing Questions:*

(1) What did you notice about the group that won?
(2) What helped the group that was best do such a good job?
(3) What kept the game moving?

c. *Interpretive Questions:*

(1) What could be done to improve the game another time?
(2) Do you hold the same opinion you had before we started the game. Interpret why or why not?

d. *Capstone Questions:*

(1) Would someone summarize what we've learned about group discussion as a result of this game?
(2) Can someone make a summarizing statement about all we've said?

EXAMPLE II: This simulation game and accompanying concept chart will serve as an example of a method to use for studying environmental concerns, especially for the unit in this guideline called "Environmental Concerns for the Community."

Alaska Pipeline Simulation Game Concept Chart

	Oil Companies	Laborers and Consumers	Auto Manufacturers	Environmentalists
Wildlife: Plants Animals				
Pollution				
Economy				
Energy				
Employment				
Other Alternatives				

Example III. Developing a Lesson Using a Simulation Game, A Concept Chart, and a Questioning Strategy

Unit: Environmental Concerns for the Community
Environmental Concern: The Energy Crises
Aspect of Concern: The Alaskan Pipeline

1. Each student read at least two articles on the Alaska Pipeline and chose one to summarize orally for the class.

2. The class divided into four groups: (a) oil companies, (b) laborers and consumers, (c) auto manufacturers, (d) environmentalists.

3. Student groups did research and filled in the accompanying concept chart in preparation for the simulation game.

4. The simulation game was played in 6 rounds as described previously.

5. The teacher lead the students through a questioning strategy evaluating the project.

6. The teacher gave a summarizing quiz on the Alaskan Pipeline

   a. Make a summarizing statement to represent the case of each of the four groups
      (1)
      (2)
      (3)
      (4)

   b. How did you feel about the Alaska Pipeline before this project?

   c. Are you pro or con the Alaska Pipeline now? _____
      Explain why.

   d. Name three reasons why having the Alaska Pipeline is important.
      (1)
      (2)
      (3)

   e. Name three reasons why the Alaska Pipeline may cause environmental problems.
      (1)
      (2)
      (3)

   f. Discuss whether you think the Alaska Pipeline should be built and why.

4. Demonstrations

An effective means for teaching is through students acting as teachers. Through student demonstrations, the teacher can gain important help in presenting skills and ideas that she would have difficulty working in otherwise if she were doing all the preparations. In addition, student demonstrations are excellent evaluative instruments and can be assigned as practical individualized unit tests.

The teacher assigns the demonstration about two weeks in advance explaining that it will act in place of a test. She gives full explanation and lists dates, having students sign for a time slot right away. After explaining the criterion and discussing the evaluative sheet which is given to the students at that time, the teacher allows some class time for students to get started. The next day the students give their demonstration choice to the teacher but then the regular unit activities continue. About a week later, the teacher allows another class day (announced previously so students are prepared) for work on the demonstration. All plans are to be passed in to the teacher at the end of this period. The day before the demonstration begins, (previously announced) the students are given another class period to make final arrangements with equipment and supplies and to practice.

Usually two demonstrations are given each day. Students evaluate each other and themselves to supplement the teacher's evaluation and as excellent training. The resulting demonstrations are usually quite good, some being exceptional enough to use in later presentations with a bit of polishing. The girls learn by teaching and each girl has a real sense of accomplishment. The teacher can now draw upon the assistance of each girl for her area as needed. The teacher now has a room of resource persons for other classes and presentations. Everyone will gain from the experience if it is planned well. (On the next page are additional helps for carrying through this technique.)

Evaluation Sheet for Demonstrations Name: _____

Make brief comments; rate each item from 1-5 with 5 standing for the highest.

Title of Demonstration	1	2	3	4
Date Given				
Overall Preparation: organized? practiced? smoothly presented?				
Were all parts understandable?				
Product Appeal: Worth making? Good design?				
Was the product environmental?				
Did you learn something from the demonstration?				
Was this a good Demonstration Choice?				
Additional comments about the demonstration?				
How would you grade the total demonstration?				
Name of Person(s) Giving Demonstration				

5. Awareness Exercises

In awareness exercises, the teacher sets up a problem which the students carry through and which is discussed in class, usually through a questioning strategy. These exercises focus on a situation that the teacher wants to emphasize as an environmental concern. Below are some sample exercises, but the teacher will enjoy creating her own exercises.

a. It has been estimated that it costs the state you live in almost 25 cents for every piece of litter that its road crews have to pick up. That's tax money. Collect the litter on the street by your school and estimate the expense from tax money if road crews had cleaned it.

b. By gently placing a brick or two in the flush tank of a toilet, this will reduce the amount of water used without decreasing the toilet's efficiency. In a city of 100,000 people there is a potential savings of 300,000 gallons per day. Try to estimate the savings for your community if each homeowner did likewise with the brick.

c. In a bathtub with a shower, put the plug in to measure how much water you use for a quick shower. Does this change when you wash you hair in a shower. Measure the difference. How can you cut down the amount of water used when washing hair under the shower? Try to see the results. Discuss with the class the implication. (Do a similar study on leaving the faucet running when you brush your teeth.)

d. If aluminum cans cost ½ cent each as value on the scrap market, what would be the worth of the cans your family uses in a week. Estimate for a year.

e. Hot lunch survey: Set up plans to tally the amounts of food and milk wasted in the school lunch program. Do this for a couple of weeks. Compile data to be used to accompany class ideas for cutting down waste. Send this to school officials or have a committee present the problem to them. (Consider what foods are most frequently wasted!)

The possibilities are endless. An occasional exercise presented as part of a study unit is very stimulating. Carrying out the exercise creates notice of the concern at home and school and has considerable impact. The teacher can devise follow up activities for each exercise. Questioning strategies are particularly good.

B. RESOURCES

1. Resource Groups and Persons

The section entitled "Involving the Community" discusses the utilization of community resource persons and ideas for forming local resource groups. However, there are many national organizations that can aid teachers interested in environmental education. Find out about state organizations that might send professional resource persons to your school to help you organize or carry through your program. You might request that the state home economics department help you find resource persons or even set up state environmental home economics workshops or training sessions. It will probably help you a great deal to find at least one other home economics teacher in your area interested in working with you through exchange of ideas and experiences.

Many of the state universities and colleges are including courses or degrees in environmental education. The teachers and professors of those institutions may be willing to act as consultants for area or state meetings.

The United States Forest Service and Department of Fish and Game have been very cooperative with environmental education in Alaska. In addition, the Alaska State Department of Education has an environmental education specialist. Similar resource persons and departments exist in other states, but the teacher needs to contact them.

The U.S. Environmental Protection Agency, Office of Public Affairs, Washington, D.C. 20460 will send upon request a directory of environmental organizations that can help the teacher. Also listed are the regional offices of the Environmental Protection Agency and the states the regions cover. Ask for "Groups That Can Help, A Directory of Environmental Organizations," 15 cents.

Following is a sample list of major ecology groups:

a. Environmental Defense Fund, 162 Old Town Road, East Setauket, New York 11733. This organization of scientists, lawyers, and citizens work through education and legal action to protect the environment.

b. Friends of the Earth, 620 C. Street, S.E., Washington, D.C. 20003. A national association (FOE) which lobbies before Congress in its efforts to restore and preserve the earth. *Not Man Apart* is its monthly publication.

c. Izaak Walton League of America, Room 806, 1800 North Kent Street, Arlington, Virginia 22209. Founded in 1922 as a sportsman's organization, it has greatly expanded its interests and membership into 600 chapters, with chapter members working in their own communities for preservation of natural resources. *Outdoor America* is published by this group monthly.

d. National Audubon Society, 950 Third Avenue, New York, New York 10022. Once emphasizing a concern for birds, the 260 local chapters work for the protection of all wildlife and environment. Many publications, teaching aids, films, and speakers

e. National Parks and Conservation Association, 1701 Eighteenth Street, N.W., Washington, D.C. 20009. Supports conservation work, especially the protection of the national park system. Established in 1919, it publishes leaflets, reports of studies, and a monthly entitled *National Parks Magazine*.

f. National Wildlife Federation, 1412 Sixteenth Street, N.W., Washington D.C. 20036. With a membership of three million, it works in every state towards wildlife protection but is concerned with general environmental protection as well. Many publications and teaching aids are published by this organization which was founded in 1963.

g. Nature Conservency, 1800 North Kent Street, Arlington, Virginia 22209. Has quietly acquired and preserved more than a quarter million acres of land for America's natural heritage. Assisting in the protection of natural areas that would otherwise be destroyed, its members ranging from students to millionaires, also help universities to acquire land for biological study. A quarterly publication tells of its activities.

h. Sierra Club, 1050 Mills Tower, 220 Bush Street, San Francisco, California 94104. Well-known it has been turning to lawsuits to protect and conserve natural resources. It publishes Sierra Club Books, a monthly bulletin, and a weekly news report.

i. The Wilderness Society, 729 Fifteenth Street, N.W., Washington D.C. 20005. Concerned about protection of the wilderness, it was the principal plaintiff in the Alaska pipeline suit. *The Living Wilderness* is its quarterly.

There are many other ecology groups that the teacher might enlist for help. For example, Zero Population Growth, Inc., 343 Second Street, Los Angeles, California 94022, attempts to stop the population explosion through education and would have materials helpful for a unit on population as related to pollution, etc.

2. Annotated Bibliography

There are so many books, periodicals, pamphlets, films, and filmstrips available that will aid the teaching of environmental home economics, it is difficult to select from them. This list suggests those that were helpful for this pilot program in the various schools. Others could be as helpful, but this list will give ideas for a collection:

a. General Helps

(1) *Human Ecology*, P.R. Ehrlick, A.H. Ehrlick, and J.P. Holdren, San Francisco, W.H. Freeman and Company, 1973 (hard cover). Excellent environmental background material; detailed reference book for teacher and student.

(2) *The Environmental Handbook*, edited by Garrett DeBell, a Ballantine/Friends of the Earth Book, New York, 1970 (paperback 95 cents). Prepared for the first environmental teach-in, it offers an excellent survey of environmental readings helpful for the teacher.

(3) *Our World In Peril: An Environment Review*, edited by Sheldon Novick, Greenwich, Conn., Fawcett Publishing Company, 1971 (paperback, $1.50).

(4) *So Human an Animal*, Rene Dubos, New York, Charles Scribner's Sons, 1968. 1969 Pulitzer Prize Winner! Interesting reading for students.

(5) *Environmental Education Instructional Activities*, Teacher's Guides, Grades K-6 and 7-12. Teachers order from: The State Education Department, Bureau of Continuing Curriculum Development, Washington Avenue, Albany, New York 12224 (Attention: Barry Jamason, to get free for teachers). Excellent background lessons on current ecological concepts and concerns to stimulate further student environmental home economics projects.

(6) *People and Their Environment, Home Economics – Grades 9-12*, J.G. Ferguson Publishing Company, 6 North Michigan Avenue, Chicago, Illinois 60602, 1968 (soft cover, $3.95). Touches upon a variety of home economics areas and can be used for initial ideas which the teacher can develop more fully. This is a teacher curriculum guide.

(7) *A Scientist's Institute for Public Information Workbook: Air Pollution, Water Pollution, Pesticides, Hunger, Environmental Education in 1970, Nuclear Explosives in Peacetime, Environmental Costs of Electric Power, Environmental Effects of Weapons Technology*, 30 East 68th Street, New York, New York 10021 (set of 8 different books is $5.00; single copy is $1.00).

(8) *The House We Live In*, An Environmental Reader, Blau and Rodenbeck, The MacMillan Company, New York 10022, 1971 (paperback). A helpful collection of environmental articles centering on the relationship between man and his environment — detailed reading or as a reference.

(9) *United States Department of the Interior Yearbooks*, 1964-1970. U.S. Government Printing Office, Washington, D.C. 1965 — *Quest for Quality* ($1.00); 1966 — *The Population Challenge* ($1.25); 1967 — *The Third Wave* ($2.00); 1968 — *Man, An Endangered Species* ($1.50); 1969 — *It's Your World* ($2.00); 1970 — *River of Life* ($2.00); 1971 — *Our Living Land* ($2.00). Background and reference for teacher and student.

(10) *Environmental Activities News Bulletin*, Charles E. Merrill Publishing Company, Bell and Howell, 1300 Alum Creek Drive, Columbus, Ohio 43216. (Sent on request.) Printed on 100% recycled paper, this bulletin has much awareness and factual material.

(11) *Environment* Magazine, 438 N. Skinker, St. Louis, Missouri 63130, (Monthly publication, $10 per year.) Current information on the environment, particularly the affects technology has on it; excellent background and current research items for the classroom.

(12) *Environmental Education* Magazine, Dembar Educational Research Services,

Box 1605, Madison, Wisconsin 53701. (Quarterly, $7.50 per year.) More helpful for the the teacher than students, although advanced students might use for research. It reports on recent research.

(13) *Conservation News*, National Wildlife Federation, 1412 16th Street, N.W., Washington D.C. 20036. (Free newsletter) Since its free and helpful, you really should send for it.

(14) *National Wildlife* Magazine, National Wildlife Federation, 1412 16th Street, N.W., Washington D.C. 20036. (Bi-monthly publication to members of organizations; annual dues of $5.00.) Includes wise use of natural resources and proper management: soil, water, forests, minerals, plant life, and wildlife.

(15) *America's Urban Crises:* (a)"The Roots of Our Urban Problems," (b)"The Air Pollution Menace," (c)"Water Pollution — A Complex Problem," (d)"Solid Waste — A New Pollutant," (e)"The Transportation Crises," and (f)"The Housing Crises." SINGER Education and Training Products, SVE, 1345 Diversey Parkway, Chicago, Illinois 60614. (6 filmstrips, 3 records, teacher's guides and reading scripts, $52.50) Recommend purchasing these after a solid collection of resources is put together. Students can use these filmstrips for factual information, but concepts stay better with students when they participate in projects that help them make their own generalizations. These filmstrips are good but a department with a small budget could better spend its money on environmentally-related paperbacks.

(16) *The Ecological Crises:* (a)"Population Statistics," (b)"Population Trends," (c)"Some Ecological Considerations," (d)"Evolution and Extinction," (e)"Pesticides," and (f)"Pollution." QED Publications, A Division of Cathedral Films, Inc. (6 filmstrips, 3 records, teachers's guides, $69.00) Same recommendation as for item 15.

(17) "Wanted: Ecology Minded Home Economists," by Nancy Ignatius, President of Concern, Inc., Washington D.C., *Journal of Home Economics*, May, 1972. Every home economists should read this!

(18) "The Focus Is On Environment," by Norma H. Compton, Dean, School of Home Economics, Auburn University, *Journal of Home Economics*, September, 1972. Reading our profession journal is a must!

b. Human Development and the Family

(1) Personal, Family, and Community

(a) *Silent Spring* by Rachel Carson, Fawcett Publications, Inc., Greenwich, Conn. 1962 (paperback, 95 cents). One of the first books to concern the public about man-made pollutants, it offers readable background on the lethal threat posed by pesticide usage.

(b) *EQ Indexes*, National Wildlife Federation, 1412 16th Street, N.W., Washington D.C. 20036 (25 cents per pamphlet). EQ stands for Ecology Quotient. These pamphlets are colorful and have excellent charts and organizational helps for understanding and evaluating environmental concerns.

(c) "Shadow of Progress," Pictures Incorporated, 811 Eighth Avenue, Anchorage, Alaska 99501. This 25-minute color film acts as an excellent introduction to environmental concerns helping students realize how the negative by-products of technology affect our quality of life.

(d) *From Sea to Shining Sea*, The President's Council on Recreation and Natural Beauty, Washington D.C., USGPO 1968 (paperback $2.50). A report on the American environment which is useful for understanding about our natural heritage.

(e) "Do You Really Know About Pollution," *Listen* (A Journal of Better Living), Department AD, 1350 Villa Street, Mountain View, California 94042, February, 1974 — Vol. 27, No. 2. (1 year monthly subscription at $6.00) This magazine is enjoyable reading for students and has a great deal of environmentally-related material, although it is not an environmental magazine -- relates well to personal pollution problems.

(2) Child Growth and Development

(a) *Terracide* by Ron M. Linton, Little and Brown, 1970 (paperback). Dealing with "America's Destruction of Her Living Environment," it has sections that would be helpful in other home economics areas, but it is especially helpful in a unit on perserving quality of life for children (see page 7-8 of the Prologue and Chapter 1, "Life in a Crowd").

(b) *The Population Bomb* by Dr. Paul R. Ehrlick, a Sierra Club/Ballantine Book — New York, 1968 (paperback 95 cents). Easy to read and understand, provides background for understanding why overpopulation is a major environmental concern.

(c) *Population, Resources, Environment* by Dr. Paul R. Ehrlick and Anne H. Ehrlick, W.H. Freeman and Company, San Francisco, 1970 (hard cover $8.95). This book has depth and scope, but is more difficult reading than *The Population Bomb*. Highly recommended for those who wish depth of reading in human ecology issues.

(d) *Population, Evolution, and Birth Control* by Garrett Hardin, W.H. Freeman and Company, 660 Market Street, San Francisco, California 94104, 1969 (paperback $2.95). Detailed but presents a "collage" of controversial environmental ideas especially helpful for teachers and advanced students.

(e) "Tragedy of the Commons," U.S. Forest Service, Juneau, Alaska. This film deals with the problem of over population and population control. Although controversial, all of the four sections are suitable for classroom use. Be sure to preview and preteach!

(f) "What the Birth Rate Means to the America of 2000," *U.S. News and World Report*, March 20, 1972. This is a particularly helpful article, discussing the implications for the United State if the population expansion continues.

c. Clothing, Textiles, and Grooming

(1) *The Medicine Show* by the Editors of Consumer Reports, a Consumer Union Publication, New York, 1963 (paperback $1.50). Presents some truths about popular personal products; helpful in teaching naturalness in grooming and personal environment.

(2) "Zig Zag Sewing Machines," *Consumer Reports*, May 1972, page 314 (60 cents per copy, December Buying Guide, $2.65). This periodical is applicable to all areas of home economics, particularly consumerism, but there are particular issues, such as the one listed, to help in environmental home economics units.

(3) *Clothing Repairs*, Home and Garden Bulletin No. 107, U.S. Department of Agriculture, Washington D.C., 1970 (price 25 cents or request from Congressman). Information on (a) mending equipment and aids, (b) basic repair stitches and their use, (c) reinforcement of garments before they are worn (d) patches and darns, (e) mends for damage commonly found in family clothing. Very helpful for a recycling of clothing unit.

d. Foods, Nutrition, and Health

(1) *Diet for a Small Planet*, by Frances Moore Lappe, A Friends of the Earth/Ballantine Book, New York, 1971 (paperback $1.25). *Recipes for a Small Planet* by Ellen Buchman Ewald, Ballantine Books, Inc., New York, 1973 (paperback $1.50). These two books give the background and tested recipes needed to understand why and how we can eat lower on the food chain and still get enough protein.

(2) "The Real Energy Crises Is A Cow," *Life and Health Journal*, Review and Herald Publishing Association, Washington D.C. 20012, September, 1973 (copy 50 cents) and *Vegetarianism* (paperback $1.50). These deal with the environmental aspects of vegetarianism as related to energy waste of food

chains. They are interesting and detailed and work well with the books listed in (1) on the problem of feeding the world's people adequately as population expands.

(3) *The Soybean Cookbook* by Dorothea Jones, Arco Publishing Company, Inc. New York, 1963 (paperback $1.45). Excellent to supplement the books previously listed for a unit on feeding the world's people. Soybeans are a high protein meat substitute of many uses.

(4) *The Chemical Feast* by James S. Turner, Grossman Publishers, New York, 1970 (paperback 95 cents). Ralph Nader's study group report on the F.D.A. It is technical reading, but nutrition and foods teachers should at least skim read it.

(5) *Report of the Secretary's Commission on Pesticides and Their Relationship to Environmental Health* U.S. Department of Health, Education, and Welfare, 1969. U.S. Government Printing Office, Washington D.C. ($3.00). Background understanding to accompany a study of organic gardening.

(6) "Facts From Our Environment," Potash Institute of North America, 1649 Tullie Circle, N.E., Atlanta, Georgia 30329 (pamphlet 25 cents). Gives an opposing view to organic gardening, but should be evaluated as well as magazines like *Organic Gardening and Farming*.

(7) "You Can Outwit Pests the Natural Way," *Good Housekeeping* Magazine, May 1972, page 208. A delightful guide for gardening without pesticides by using natural enemies and strong-smelling herbs.

(8) *Stalking the Wild Asparagus* by Euell Gibbons, David McKay Co., New York, New York, 1962 (paperback). This and Mr. Gibbon's other books are a fun supplement for a foods unit dealing with free and natural foods.

(9) *The Great American Food Hoax* by Sidney Margolius, Dell Publishing Company, Inc., New York, New York 10017, 1971 (paperback). Discusses what has happened with food in America and how to get more nutrition and quality for the food dollar. Home economists will enjoy evaluating it themselves.

(10) *Hunger in America*, Public Affairs Pamphlet No. 457, Public Affairs Committee, 381 Park Avenue South, New York, New York 10016 (25 cents). America is supposed to be the best fed nation, but how well are we fed? This pamphlet is quite eye opening.

(11) *Organic Gardening and Farming* Magazine, Emmaus, Pennsylvania, 18099 (introductory rate: $3.85 for one year; $7.70 for 2 years). An excellent guide for those who seriously consider organic gardening. Well worth the money just as an enjoyable reference for class.

e. Consumer Education and Home Management

(1) *The Waste Makers, The Status Seekers,* and *The Hidden Persuaders* by Vance Packard, Pocket Books, New York (paperback 75 cents). These three well-known books are extremely helpful in understanding our consumer society. Students find them readable.

(2) Penney's Educational Materials, particularly *Forum* and *Insights Into Consumerism,* Educational and Consumer Relations, J.C. Penney Company, Inc., 1301 Avenue of the Americas, New York, New York 10019 or your nearest J.C. Penney store. Not designed as environmental materials, but teacher imagination can help utilize these materials very effectively in environmental units.

(3) "Ecology and You," Chapter VIII, *Neighbor to Neighbor* by Margaret Davidson, Popular Library, New York, 1973 (paperback 95 cents — possibly free on request through a natural gas company in your area). Supported by American Gas Association and received through Alaska Gas and Service Company (contact Jenny Green, Home Service Consultant), this is a helpful guide for home management and consumer education with an environmental flavor.

(4) "The Save a Watt Game; Why We Must Teach Energy Efficiency," *What's New in Home Economics,* October, 1973, 666 Fifth Avenue, New York, New York 10019 (8 issues at $8, two years at $12). The game presented in the article as well as the information would be helpful for teaching about the energy crises. The particular issue mentioned has special focus on personal, public, and consumer concerns. The magazine itself is very helpful to the home economics teacher.

(5) "Is There an Energy Crises?" and "Energy Crises: Some Things We Can Do," *Forecast* Magazine, September, 1973, 902 Sylvan Avenue, Englewood Cliffs, New Jersey 07632 (free to accompany 10 or more orders of *Co-Ed* for home economics students or $6 per year). These two articles appearing in the same issue will be helpful for a unit on the energy crises. The magazine is recommended for home economics teachers; well worth the investment.

f. Environmental Housing and Life-Styles

(1) *How A House Is Built* by Lawrence A. Benenson, Criterion Books, 1964 ($3.50). Aids to the understanding of houses and how they are built; can provide background for an environmental unit with imagination.

(2) *Home Sanitation,* Rev. 1962, Cat. No. FS 2.50:3913. Superintendent of Documents, U.S. Government Printing Office, Washington D.C. 20402 (6 pages, 5 cents). Background information on home sanitation which can be used for an environmental unit on housing.

(3) "Housing Technology: How Does It Affect the Energy Crises?" *Journal of*

Home Economics, December, 1973. There are numerous articles available on the energy crises, but the article listed and the several others which accompany it in the same issue are excellent.

(4) "How to Get Out of the City and Back to the Land," *The Mother Earth News*, P.O. Box 38, Madison, Ohio 44057 (single copies $1.35 for this special issue; bi-monthly subscription for a year is $6.00). This special issue is very informative. Although it is impossible for all Americans to get back to the land, much can be done in a small yard. Other issues include many fun and environmental ideas such as how to make homemade soap. Appeal to students; helpful for research for demonstrations.

(5) *Living Poor With Style* by Ernest Callenbach, Bantam Books, Inc., 666 Fifth Avenue, New York, New York 10019, 1972 (paperback $1.95). Entertaining non-fiction that students will enjoy. Much of the information is applicable to environmental life-styles. Some of the chapters are "Handling Money," "Eating," "Dwelling," "Furnishing and Equipping," "Clothing," "Staying Fit," and "Raising Children." Some of the chapters may raise eyebrows, such as "Dealing with the Law" and "Avoiding the Draft," but the book is realistic. Evaluation is left to the individual teacher.

(6) *How to Stay Alive In the Woods* by Bradford Angier, Collier Books, New York, New York 10022, 1972 (paperback). Twenty-six chapters telling how one can find food, water, warmth, and shelter when lost or stranded in the woods. Since more families are camping, hiking, and back packing, this book should appeal to a portion of students.

g. Occupations Related to Home Economics

(1) *Career Education in the Environment* by Olympus Research Corporation, 818 18th Street, N.W., Washington D.C. 20006 ($3 per handbook). Very helpful for career education and work-study programs as well as for environmental units on occupations — well worth the money.

(2) *For the Good of the Community, Your Hometown Needs Volunteers, Needs You*, 1963 (5 cents per copy of 6 pages). Available from Superintendent of Documents, U.S. Government Printing Office, Washington D.C. 20402. Volunteer work for the community is something that should not be overlooked in a study of occupations. What would happen if the homemaker stopped volunteering services for the benefit of the community. This leaflet can be used to extend the idea of volunteering to help the local environment.

(3) *Career Profiles in Forestry, Conservation, Ecology, and Environmental Management*, U.S. Department of Agriculture, Forest Service, FS 308, Superintendent of Documents, U.S. Government Printing Office, Washington D.C. 20402, 1973 (pamphlet 25 cents).

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